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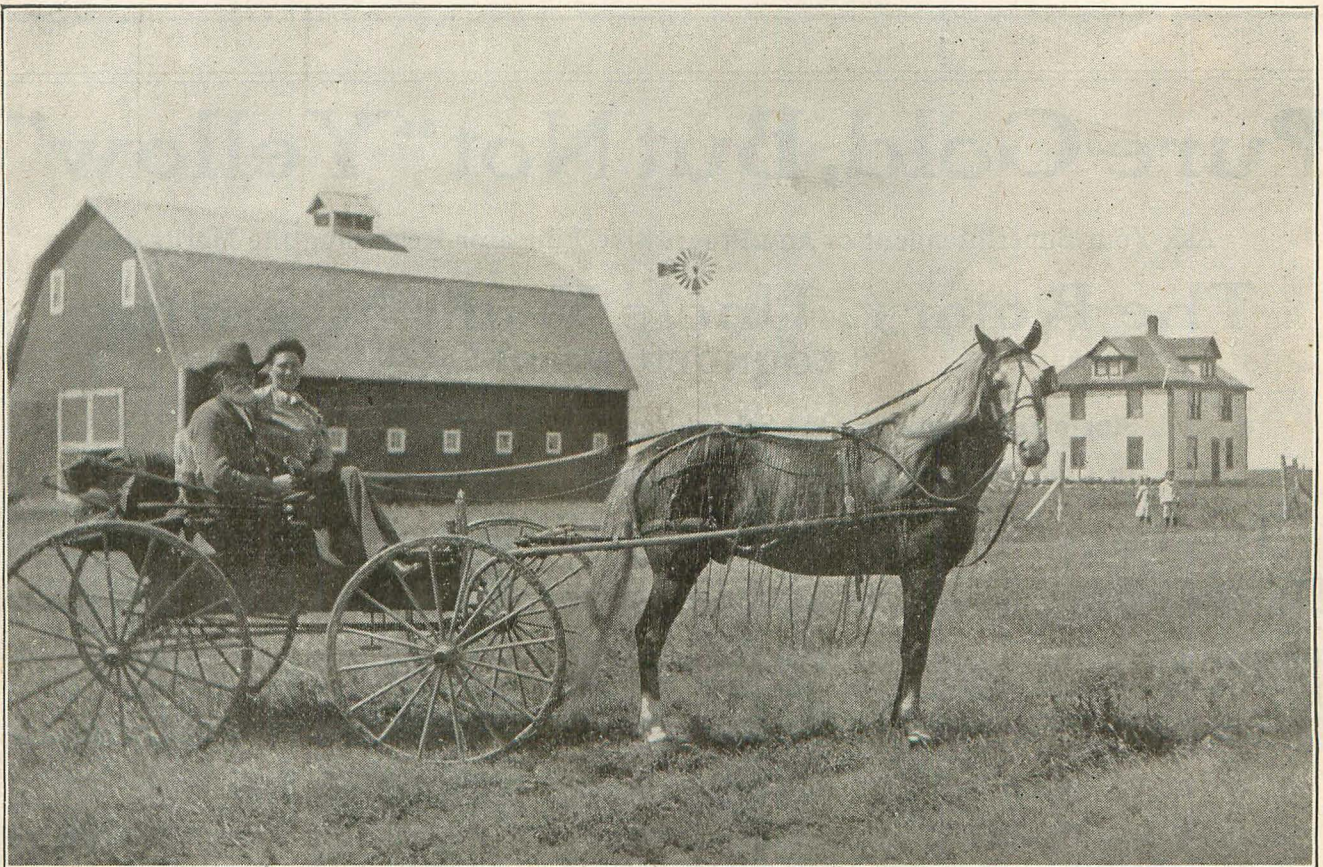


"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Vol. 13 · No. 10

Lisbon, North Dakota, April 15, 1912

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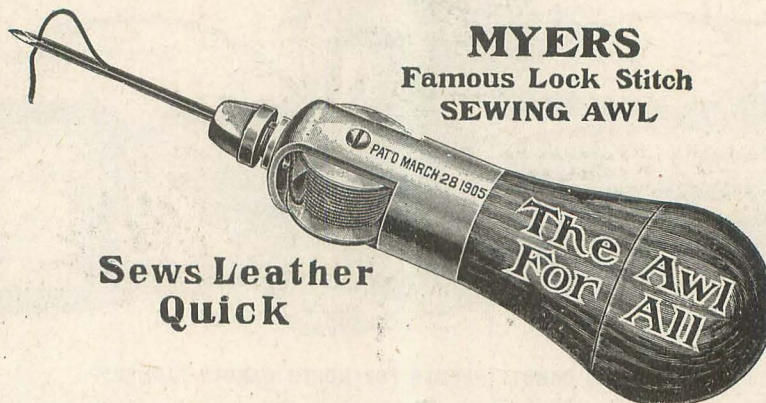
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# THE NORTH DAKOTA FARMER

Vol. 13, No. 10

LISBON N. D., APRIL 15, 1912

50 Cents a Year

## SOME PRESENT DAY RURAL PROBLEMS

By J. H. Worst

Those engaged in agricultural pursuits are confronted by numerous problems. The farming is the great primitive industry—the oldest and most honorable among human activities—yet it has not, strictly speaking, been reduced to an exact science. Nevertheless, the farm and the farmer have always stood between the world and want, and the art of cultivating the soil and securing from it the necessities of life has been the concern of all the ages. Because the natural forces that enter into the problem of scientific agriculture are abstruse and difficult of interpretation, doubtless accounts for the fact that but little progress was made, except in the art of agriculture, until the spur of necessity aroused Western Europe, and later on our own country, to scientific investigation.

Within the past half-century, however, surprising progress has been made. Mechanical inventions have accomplished much to lessen the burden of toil, while scientific research has done as much or more to make the business of farming more interesting as well as more profitable.

### Government Aid

The Federal Government came to the rescue of long neglected agriculture in 1862 when the Land Grant Colleges were established. These institutions, while affording all the advantages of a liberal education, give special emphasis to the physical sciences and to their bearing upon agriculture and other industries. The purpose of these colleges is to encourage young men to secure a liberal education directly related to agriculture and other industrial pursuits, on the same basis as the established universities provide facilities for those preparing for law, medicine, or the professions in general.

For the purpose of encouraging agricultural research, experiment stations also were established in every state where agricultural experts make a study of the soils

and their constituents, of plants and their diseases, of animals and animal products, together with improved methods of farm management with a view to making farming more profitable as well as more pleasurable.

The advantages of planting only pedigree seed, of eradicating weeds, maintaining soil fertility, of breeding only from thorobred sires, of soil sanitation, etc., are not only emphasized but demonstrated by men whose conclusions cannot be questioned. And tho the problems that confront and frequently baffle the farmer are numerous, yet the experiment stations with their trained experts are at his service and seldom fail to provide a remedy, frequently long before the farmer is sufficiently progressive to apply it.

Under the leadership of men thus trained in agriculture, the farm is destined, in the near future, let us hope, to become a laboratory reflecting the wisdom and benevolence of the Creator instead of a mere food factory from which the children seem over-anxious to escape.

It is thus apparent that the Government has finally awakened to the importance of agriculture and the country's dependence upon the farmer. Far-seeing business men also are taking an active interest in improved agriculture and are giving support to every sane movement that promises greater rural prosperity.

Railroad officials, bankers, and politicians likewise have sensed the disaster that a failing agriculture portends for the country, and incidentally for their private or corporate enterprises; hence, all have become loyal advocates of better farming and improved rural conditions.

### Rural Progress

Whatever the motive that prompts such universal interest in rural improvement, it is a safe prophecy that the near future will reveal the wisdom of such general solicitude.

It now only remains for farmers themselves to awaken to their responsibility. Being the custodians of the nation's chief source of wealth,—of its soil and, consequently, of its food supply, the farmers of the country are under tremendous responsibilities to the government and to posterity. All local differences and all hereditary prejudices must yield before this larger national emergency.

Since the foundation of the government, agriculture has been but little more than a system of soil exploitation. The very excess of the country's natural resources encouraged a prodigality of wastefulness without a parallel in the history of nations. To coin timber and minerals and the fertility of the soil into bank accounts at a fraction of the intrinsic value of the material consumed, and without concern for the interests of posterity or the future of the country, seemed to be the universal desire. In the mad rush for wealth, countless millions were wasted, and the waste continues. Within our own memories, we were wont to speak of natural resources, such as forests, as being inexhaustible that already are nearing extinction. Is it any wonder, therefore, that the demand for conservation should be raised like a cry of fire in the night and that strenuous measures should be encouraged to forestall at least the further depletion of the soil?

### Local Problems

Southern Illinois is no exception. Your black soil doubtless has seen better days. Far be it from me, however, a total stranger to your soil and climatic conditions, to attempt a discussion of purely local problems with a view to their solution. Such questions as relate to the soil, methods of cultivation, drainage, seed selection, maintenance of fertility, destruction of weeds, rotation of crops, dairying and the feeding and breeding of livestock must be answered very largely in the light of your own observation and experience and the investigations made by your state experiment station.

Some of the larger rural problems, however, problems that effect the whole country, may be discussed with profit on this occasion.

### Widespread Discontent

The Country Life Commission appoint-



ed by President Roosevelt, after an extended survey of the agricultural districts from the Atlantic to the Pacific, among other things discovered widespread discontent in almost every farming community. Among the specific things complained of may be mentioned poor country schools, bad roads, social isolation, and lack of modern conveniences in the farm homes. Too much drudgery and insufficient opportunity for recreation and social intercourse. In general a discouraging viewpoint, especially among the young people, has obtained against farming as a desirable vocation. Most of the evils complained of, however, can be remedied, but the remedy must come primarily from the farmers themselves. Others will assist, tho but little progress can be expected, however, until the rural communities cultivate a higher appreciation of their business.

#### **Rural Contentment of Utmost Importance**

First and foremost, in attempting the solution of the rural problem, it is necessary to enquire into the causes of rural discontent.

If the conditions of country living are not satisfactory, the question is,—Can they be made satisfactory? And how? Moreover, the satisfaction must extend to wife and children as well as to the head of the family, for if the wife becomes discouraged and the young people desert the country-side for the cities, a single generation may see the farms largely managed by those farming under protest or by temporary renters; and tenancy is a menace to country life.

The question may be raised here—What is the magnet that attracts country youth to the cities? Or, perhaps, the question had better be put thus—What is the bogey that drives young people from the farms? Cannot the magnet that draws them to the cities be transferred from the city to the country? Cannot the bogey that drives them from the farms be destroyed?

It is a safe prediction that if the business of farming were quite profitable, if the drudgery could be largely removed and intelligent interest substituted in place of drudgery, and the farm home made beautiful, sanitary, and supplied with modern conveniences, and if good schools and social centers could be established in every rural community where both old and young could find such amusements and recreation as social beings naturally desire, the magnet, doubtless, would be found.

And with modern labor-saving machinery, the farm and household work can all be done within reasonable hours and plenty of time left for amusement and recreation. Saturday afternoons, except during the very busiest seasons, can well be devoted to country social gatherings—for recreation and amusement. The mere fact that such things are unusual in coun-

try districts is no reason why they should not be introduced. We have tried the from daylight-till-after-dark regime until we have driven the more ambitious of our youth away from the farms where they are needed to the cities where they are not wanted. For young people will have a measure of social enjoyment and if the country does not provide for it, they will leave the country in order to find it. Many gray hairs have gone to the grave in sorrow over wayward or ruined children—children who fled from the home roof—and all because the country failed to provide the innocent things their youthful natures craved to feed upon. In the new and strange environment into which they gravitate—not innocent, but frequently vicious allurements drag them down to depths from which they cannot recover.

The cities, however, will always receive their best recruits from the country.

They need them, but those that go should go prepared and with definite purpose—because they have a mission—and not simply to get rid of irksome country surroundings or to participate in the swifter life the cities offer. In other words, country life should be made less irksome.

Life at best is short and if all its waking hours consist of one dull round of ceaseless toil—of heartless drudgery—drudgery that deforms and twists the youthful body by placing heavy burdens upon the boy while his bones and muscles are soft, is it any wonder that the wrong rankles in his breast? The boys know the wrongs they suffer and talk—about it among themselves. They feel the bitterness and show the just envy that is in their minds toward the more fortunate ones who have not the load of a man's labor constantly upon their youthful backs. What kind of citizens, think you, comes of the boy who grows up, under heavy tasks and with no opportunity for play or social pastime, with such thoughts in his heart.

#### **Rural Life Must Be Made Popular**

Rural life, therefore, must be made popular and that by the farmers themselves. The welfare of the nation demands it and ultimately the farmers will respond, for they have never yet been lacking in patriotism.

Before this problem, such trifles as tariffs, foreign relations, and political platforms sink into insignificance. It is the greatest question that confronts the country today.

Agriculture is the backbone of the American nation, but unless those who till the soil do so with highest intelligence and with a just pride in their vocation, we cannot maintain our place among the nations as a great commercial power, for rural decay spells national disaster. Our fundamental industry, therefore, must not be permitted to descend into the hands of unwilling husbandmen who toil because they **must** and not because they **love** the work.

Agriculture, by virtue of its economic importance and having been ordained by Heaven should be looked upon as the most desirable among human occupations and one requiring larger intelligence to fill with credit than all other vocations combined.

If farmers in the past have permitted their civic pride to be trampled out of them, at least give the country boys and girls a good education—an education in terms of country life and they will make the farm home worth loving.

The trouble is, farmers as a rule do not properly appreciate themselves nor their calling. And just so long as the farmer considers himself, or allows others to consider him, as of a separate, and in a sense of an inferior class, just so long will he be treated as of secondary importance in the community. For others appreciate us just about as we appreciate ourselves.

#### **Rural Population Must Assert Itself**

The emancipation and uplift of agriculture must come from within. As long as a sense of subordination prevails among the rural population, its domination by predatory interests will remain absolute. The best interests of the country at large, therefore, demands that agriculture shall assert itself in social and in public affairs. Otherwise the countryside will steadily lose its most promising boys and girls.

How to effectually arouse the rural population permanently and consistently to the full and complete exercise of its proportionate social, political, and economic power and to awaken it to a sense of its civic importance, as compared with other interests is one of the most vital of rural problems.

Moreover, the awakening must be spontaneous—must come from within—to be either effective or permanent. The leaven of leadership must sooner or later permeate this great industrial element and be encouraged for the unfolding and quickening of that rare strength of character that is inherent, but hitherto inert, in a race whose blood has never been watered by contact with urban intrigues or weakened by urban dissipation.

An industry with \$36,000,000,000 of invested capital and that produces annually more than \$9,000,000,000 worth of commodities, commodities which include 42 per cent of the raw material consumed in American mills and factories is of sufficient rank and for its own protection should participate more largely than it does in the affairs of the government, both state and national. Agriculture is entirely too big and its productive interests too important to be longer made the plaything of political platform makers.

If the rural population only were under consideration, if no other interests were involved, it is certain the situation would be less significant. But there are other and more vital considerations. The



public welfare, the Nation's political health, must be taken into account.

The character of the rural populace, its natural conservatism and freedom from intrigue, its firm adherence to law and order, offers inherent qualities that, by its assuming larger civic activities, will tend to counteract evils that now gravely threaten our political system with disaster.

Our state and federal law-makers are chiefly lawyers who, among themselves, arrange to fill the public offices, whereas all interests, and especially the agricultural interests should be quite largely represented in the Congress and in state legislatures. As a noted writer says:

"Lawyers have little conception of the

(To be Continued)

real requirements of national commerce, and this monopoly of Congressional and State representation by the legal element is largely responsible for the country's unrest. The number of unconstitutional bills brought forward by lawyers proves they are incompetent in their own profession."

Agriculture, by virtue of its independent yet friendly attitude toward other interests, is peculiarly and logically fitted for larger influence in public affairs. Not many at present engaged in agricultural pursuits may feel qualified to discharge legislative or executive duties with great credit, but the ambition to do so must not be eliminat3d from the farming class.

South Dakota or Montana seed is of second choice.

Alfalfa seed should be of good quality. It should germinate 90 per cent or more, and should be free from foul weed seed. Care should be taken to secure alfalfa seed free from dodder. Alfalfa seed may be sent to "Seed Commissioner," Agricultural College, North Dakota for inspection.

Seeding is best done in late May or in early June. Late in May one has and a chance to kill weeds in the field which is designed for alfalfa, and also rains are generally abundant, to hasten the growth of the plant. Alfalfa should be sown without a nurse crop, especially if the ground is clean. Seed is best sown with a drill, at a depth of one inch or even two inches in light soil.

#### Rate of Sowing

This is a very important point in semi-arid districts. It is necessary that the alfalfa stand be thin where the rainfall is limited in order that the root systems may attain excellent development. The rate of sowing depends on many things. If one sows hardy, viable seed and the conditions are good, then 5 pounds per acre is probably sufficient in areas of diminished rainfall. In this case it is understood that the sowing is to be done in six or seven inch drills.

Most drills do not make such light seeding as five pounds per acre, so that it is necessary to dilute the seed with some inert material. We find that sifted soil is excellent for this purpose, and when sowing on new ground one naturally takes the inoculated soil to dilute the seed.

#### Seeding in Rows

In the semi-arid districts, seeding alfalfa in cultivated rows for hay production demands serious consideration. From results up to the present time, it would appear that in many districts, this method of culture will produce the greatest net returns. When seeded in this manner, from one and one-half to two pounds of seed per acre, provided it is of good quality, will be a sufficient amount.

Alfalfa germinates rapidly, and under favorable conditions will be up in 5 days. Very often, rains pack the dirt, and if the soil is sandy, a thin hard crust is apt to be formed, thru which the young plants cannot force their way. It would not be safe to give this any ordinary cultivation, but a hollow wooden cylinder, thru which many nails are driven, the points of the nails projecting to the outside, should be used. It would be, in effect, a slight roller studded with many nails.

#### Care of the Growing Crop

The crop should be clipped the first season once or twice when the weeds become troublesome. Clipping should not be too close, and the last clipping should be made before the growing season is finished.

In the spring of the second season, if

## ALFALFA CULTURE IN THE MIDDLE NORTHWEST

By L. R. Waldron

Our readers will be interested in the accompanying article by L. R. Waldron of whose work the Dickinson Press says the following:

"The local experimental station is gaining more than a state reputation with its alfalfa work. Nearly a year ago a note appeared in a Russian botanical journal making mention of the testing of a number of alfalfa strains at Dickinson. The experiment station of Novosil, government of Tula, Russia, thru the Russian agricultural representative located in this country, requested the Dickinson experiment station to prepare and send to them a series of alfalfa strains for experimental work. Recently Supt. Waldron sent to Russia, via New York, a box containing 77 strains of alfalfa, some of them being very hardy and cold resistant. A thing like this is of interest when it is remembered that North Dakota is very young in the production of alfalfa. It will be remembered it was at Dickinson that the justly famous Grimm alfalfa received its most extensive and celebrated trials. Mention was made recently in an Australian journal of the extensive alfalfa work being done at Dickinson."

The ground selected for alfalfa should be well manured, plowed well and planted to corn, potatoes or to some cultivated crop. This cultivated crop should be kept very clean during the period of growth.

In early spring of the year following, the previously cultivated land should be disced or well harrowed. Later on the soil should be worked occasionally until late in May. This working of the soil serves two purposes. The moisture in the soil is conserved but perhaps the main thing is to kill off the young weeds which will germinate during April and May.

We find it quite important to keep the new alfalfa crop as free from weeds as possible, as young alfalfa plants are not good weed fighters.

#### Value of Moist Soil

It is quite important that alfalfa be sown on land that contains some stored water. This enables the young alfalfa plant to push its roots down with rapidity during the first season, and a good foundation is laid for the development of an extensive root system, which is important if alfalfa is to flourish under our dry land conditions.

If alfalfa is sown on soil that contains no stored water, then the plants will be stunted the first season, the tap root will not develop as it should, and the crop may be shortened for several years.

#### Inoculation

It is apparent that most of our upland prairie soils will need inoculation. It is necessary that certain bacteria be found in the soil. If they are not there naturally, they must be put there. This planting of the bacteria is called "Inoculation." The best and safest method is to secure dirt from a successful alfalfa field. This dirt should be sowed over the field at the rate of 200 or 300 pounds per acre, upon a cloudy day, and harrowed in. Sunshine is injurious to the germs. An advantage in starting with a small patch of alfalfa is that when the patch is well inoculated, a farmer has an abundance of alfalfa dirt to inoculate larger areas.

#### Seed and Seeding

Our experience with the Grimm alfalfa leads us to recommend this variety for most northern areas. Care should be taken to secure Grimm of known genuineness, as there are dealers who are offering common alfalfa seed as genuine Grimm.



the alfalfa is fairly well established, the crop should receive some cultivation, either discing or discing and harrowing. After the first cutting it will be a good plan to disc or harrow again.

#### Time of Cutting

Alfalfa should ordinarily be cut when it is coming into blossom. To be more accurate, it needs cutting when the basal shoots are starting for the second growth. Examination of the plants will show whether these are starting or not.

When one growth is removed, another one comes on immediately to take its place, and so on continually as long as moisture and temperature conditions are favorable. But if the first growth remains while the second one starts, then, evidently, the second suffers, when the first and second growths are developing at the same time.

#### Securing the Alfalfa Crop

Nearly all alfalfa of the country is utilized in the form of hay. Alfalfa hay differs from that made from the true grasses, in that the leaves are easily lost. This fact is of importance, because the major portion of the value of alfalfa is found in the leaves. Thus in securing alfalfa hay, it is quite essential to secure as large a portion of the leaves as possible. After cutting, alfalfa should be raked before the leaves become dry. It is best that alfalfa do much of its curing in the cock. With favorable weather, and with a yield of one ton to one and one-half tons per acre, it is possible to cut one day and draw the next. With such rapid handling, and if raked before too dry, the minimum weight of leaves is lost and the alfalfa is secured with a good green color. In bunching, alfalfa should be handled by hand, as bunching with a rake loses many of the leaves. Rain is very injurious to the cut hay.

#### ALFALFA MAXIMS

The following Alfalfa Maxims are taken from Bulletin No. 95.

1. Alfalfa must be inoculated.
3. Alfalfa cannot stand wet feet.
3. Alfalfa needs a well drained soil.
4. Alfalfa is a poor weed fighter the first season.
5. Alfalfa does not thrive when not cut.
6. Alfalfa should be cut when one-tenth in bloom.
7. Alfalfa should not be cut too late in the season.
8. Alfalfa roots go deep.
9. Alfalfa is the prince of drouth resistors.
10. Alfalfa needs a deep, well-packed seed bed.
11. Alfalfa does best on manured soil.
12. Alfalfa is best seeded without a nurse crop.
13. Alfalfa should be seeded with a drill.
14. Alfalfa should not be pastured until well established.

15. Alfalfa should not be pastured in the spring, when starting growth.
16. Alfalfa boards itself and pays for the privilege.
17. Alfalfa adds humus to the soil.
18. Alfalfa sod plows hard.
19. Alfalfa sod produces good crops.
20. Alfalfa yields are large.
21. Alfalfa hay represents quality.

#### FLAX NOTES

By H. L. Bolley

We receive many letters asking regarding the advisability of putting flax into wheat or barley or oats stubble and as to the advisability of putting flax on corn lands of the previous year.

**Flax after Corn:** With regard to this topic there can be not the slightest question as to the results. On my own experimental plots I have, in a small way demonstrated that a properly cultivated corn ground is the best preparation for flax crop provided the cultivation has been sufficiently thoro and persistent during the corn growing season to keep down the weeds and mature a good corn crop. If the land were properly deep plowed for the corn it should not be reseeded for flax but should be levelled in any manner in which the corn rows can be smoothed over so as to get the ground evenly level. Discing, planking, **packing**, and harrowing on the surface of such old corn ground, provided the discing and harrowing are done when the ground is sufficiently damp not to cause it to blow, will prepare a seed bed for flax which has no equal.

**Flax after Wheat, Oats or Barley:** If the ground were properly plowed previous to the wheat, oats, or barley and the ground is reasonably free from weeds, a thoro discing and harrowing and **packing** of such stubble lands will give a good seed bed for flax. When I write this, I mean, however, that the discing harrowing, and packing should be **thoro** and that this discing, harrowing, and packing should be done while the ground is damp so that it will work down in good shape. No effort should be made to get the ground loose. If, however, the crop is being planted in this manner in a region where Russian Thistle, Tumbling Mustard, and other weeds have blown over the land during the year, I do not believe it is advisable to prepare the seed bed in this manner unless it is in the southern portion of the state when it will be possible to harrow and disc and pack such land several times during the spring before it is time to seed the flax, allowing the weed seeds to germinate, after which the flax should be planted immediately after the last working of the ground while the ground is fresh and moist.

**Planting Flax on Weedy Stubble Land:** In this case the land should be plowed deep so as to turn under the stubble and

weeds of the last year to a considerable depth—say five to seven inches or better. The plowing should be done when it is time to plant flax and a sub-surface packer should follow the plow at once while the plowing is being done. This should again be followed by a cogwheel packer or some heavy surface packer, then the flax drilled in while the ground is fresh and moist. Following the drill it will not be a bad plan to put on a heavy stone boat or float to mash down the ground, or to repack the ground. On such ground too much packing cannot be done unless it is done while the ground is muddy. The ground should be packed so hard before the drill is put on it that the discs will not cut much deeper into it than they would into new plowed sod land. The seed in no case should be planted deeper than an inch—three-quarters of an inch is still better if the ground is packed hard enough to bring the moisture up to that point.

Do not forget to plant bright colored flax seed. Do not forget to treat all seed before planting. Do not sow over twelve quarts of good seed per acre.

**Cereals after Flax on the Previous Year's Breaking:** We get hundreds of letters asking us what to do with the ground on which flax grew on first year breaking. Most of the people want to sow flax on it again because they say they cannot plow the land well for other crops.

I have had, during the past year, a number of farmers help me in carrying out a test of the question whether such flax stubble lands where the flax grew upon new breaking can be successfully used for the growth of wheat, barley, or oats, without plowing. The reason for wanting to do this rests in the fact that in a dry year the sod of the breaking on which the flax grew does not properly root. It is almost impossible to plow such land and make a success of the plowing sufficient to allow one to work down a compact seed bed. Backsetting cannot be done on such land by any other tool than a deep tilling disc plow and even that will have difficulty to prevent the ground from being very lumpy and loose. We have had reports from enough farmers who have tried planting wheat after flax on last year's breaking to show conclusively that such flax stubble land can be made into a good seed bed for wheat. Indeed it seems to produce a wheat crop second only to that which can be produced on a proper summer fallow or on corn lands. When I say this, remember that I mean **thoro discing and pulverizing associated with thoro harrowing and packing**, using some such tool as the cogwheel, corrugated, or sub-surface packer. As soon as the land thaws enough to put on a disc and cut the old sods of the flax stubble, disc the land first length ways then diagonally, then cross ways. Then put on your packing tools and follow immediately with the drill. In the case of barley the work can



be continued somewhat more thoroly and the seed put in a little later. Remember that in planting barley to be sold for brewing purposes the object is to get a high quality of barley free from weed seeds and of high germinating power. This sort of land will give this very crop if properly handled. **To give a high malting value the barley should be harvested as soon as ripe and threshed as soon as dry.**

Oats do equally well under these conditions. I dislike to advocate discing in grain upon stubble because many people think that discing in grain means to run a disc once or twice over such stubble lands. If that is what the reader has in mind my advice is, do not try to do work. To do a good job of planting wheat, oats or barley on flax stubble or to do a good job of planting flax on wheat, oats or barley stubble one should do about as much work with the disc, the harrow, and the heavy packer as he would do if he should plow the land. It is just a better way of handling stubble land. It allows one to prepare a firm seed bed in the spring without getting it too loose. If, however, the work is carelessly done it will result in a good weed patch.

Irrigating Land for the Production of Flax Seed: We have considerable correspondence from various sources regarding the proper method of cropping flax on irrigated lands.

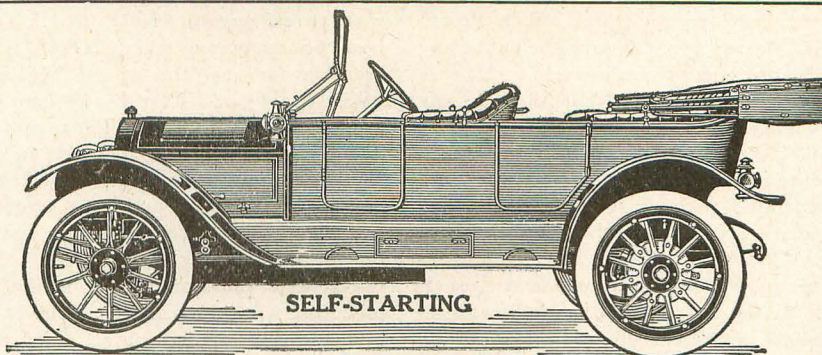
If irrigation is used it should be used with the point in view of forcing the early growth of the flax crop up to the point of boll formation and there should be enough moisture remaining in the sub-soil at this time to properly ripen the seed and no more. The application of water will therefore depend largely upon two features, the nature of the sub-soil and the climatic conditions as affected by rain fall and atmospheric moisture. The writer is of the opinion that the land should be thoroly flooded late in the fall just before freezing weather sets in, thus allowing the sub-soil to be thoroly saturated. In regions where there are rains in July and August no more moisture will be necessary.

In some regions a spring flooding or perhaps two may be necessary, one before the seed is planted and one just preceding the blossom period. If irrigated after it is in blossom it is apt to continue blossoming and it will be difficult to get it to ripen. This is especially true if the crop is late or if there are cool nights in the region under consideration. A clear sky and soil which tends to become drouthy at maturing time seems to be essential for the production of flax seed of high quality.

This bulletin and others upon flax cropping sent on application to any address.

#### "Wilt Proof" vs. Wilt Resistant Flax

I take this opportunity to call attention to a distinction which it will be well for persons interested in flax to keep in mind. Certain people are determined to call or-



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dinary wilt resistant flax "Wilt Proof" flax. I have never given to the public any indication that there is such a thing as "Wilt Proof" flax or that there is any probability that it may ever be obtained.

The plain facts are these: Our experiments and those of the farmers who have cooperated with us to increase the flax seed have proved conclusively that it is possible to develop, thru breeding and selection, strains of flax sufficiently resistant to the root-rot and wilt diseases to produce an essentially perfect stand on wilt-sick soil. "Wilt Resistant" flax is not "Wilt Proof" flax. Tho wilt resistant flax may produce essentially a normal sized crop on old flax-sick land, the individual plants are nevertheless attacked by wilt and the seeds of such resistant crops carry with them the wilt diseases in the same manner that ordinary seed does.

No one should be deceived by those who

wish to exaggerate simply for the purpose of temporary gain. There is no occasion for any one to use the word "Wilt Proof" or "Rust Proof" and certainly no occasion to use the name of the Agricultural College or my name in connection with such statements, for I have at all times and on numerous occasions been careful to make the proper distinctions in this matter.

The determination of the method of procuring wilt resistant flax is one of the best and most important pieces of work that I have been able to do for agriculture. If, however, seedsmen, and farmers who raise seed for sale, persist in using "Wilt Proof" and "Rust Proof," words which convey an absolutely false meaning, they have only themselves to blame if they discredit the entire work and cause people to lose faith in their methods of doing business.

as the importance of it. They found that it means dollars and cents in the pocket of the one who feeds the balanced ration. The one who does not is just as good as throwing away a part of his feed and is not making use of the capacity of his animals to produce. The talk on poultry was illustrated with a coop and yard that has been found very good for success in this line of work. The blackboard was used very freely. Many things were made plain in this way. In talking about the alfalfa germs an alfalfa plant with the nodules on it was used to show how to detect the presence of the germ. From this one can see that the instruction was of a very practical nature.

The school was conducted by Prof. Gordon W. Randlett, director of the North Dakota Agricultural College extension Department. He was assisted by W. R. Lanxon, Supt. of the Hettinger Sub-station, R. C. Doneghue, Prof. of Soils, N. Dak. Agricultural College and W. C. Palmer, Agr. Editor, N. Dak. Agr. College Extension Dept. The Mandan Commercial Club paid all the local expenses of the school.

## EXTENSION DEPARTMENT

W. C. Palmer, Agricultural Editor

### MOST IMPORTANT FARM IMPLEMENT

Prof. W. C. Palmer

The most important farm implement is a lead pencil. Without some form of accounts, one can not know what is really doing. One can not know where the profits or the losses are. The time required in keeping accounts will be but a few minutes a day. In many cases the returns will be more for these few minutes than for the rest of the day's work.

The keeping of accounts does not require any elaborate system. It can be made quite simple. One way is—get a note book, and set aside two pages that face for each thing that one is to keep account with. For instance, the pigs, cows, chickens, the different fields, the banker, the merchant, etc.

On the left hand page, or debit side, put down whatever goes to that party. If it be the cows, put down the feed they get, the fodder, in short whatever you spend on them. If it is the banker or merchant, put down whatever you turn over to them as money, eggs, butter, etc.

On the right hand page, or credit side, put down whatever you get from the different parties. If it is the cows, put down the money value of the milk, butter or cream that they give. If it is the banker or merchant, put down the money, groceries, hardware, or whatever you get from them.

All that is necessary to start out with is a five or ten cent note book, a lead pencil and enough gumption to start one at it.

### MANDAN FARM SCHOOL

Mandan has held a two weeks' farm school at the commercial club rooms. Lectures and demonstrations were given in such subjects as soil, plants, fertility, soil culture, corn, alfalfa, poultry, milk testing, keeping milk records, making out balanced rations, silo, manure, tree growing, fruit growing, cooperation, etc. In the lesson on soils, soils brought in by the farmers was used for the demonstration. The lesson on testing was carried out with corn brought in by the farmers, each ear was tested. For instance out of a batch of 30 ears but 19 could be used for seed. Without this kind of testing it would be impossible to know which were the poor ears. It was rather startling to see the way the test came out. It made it possible to say that this ear will grow and this one will not. In the demonstration in milk testing milk brought in by the farmers was used, after a test had been made to show how to do it, the farmers did the testing themselves. The talk on the silo was made interesting by the fact that it was illustrated with a small cement silo, showing just how it is made. The talk on the dairy cow was illustrated with a large oil painting of one of the prize winning cows, bringing very emphatically before the audience the points of a good milk animal. In the study of feeds many charts furnished the composition of the different feeds and many of the farmers and their boys learned how to figure out balanced rations, many learned for the first time what a balanced ration is, as well

### AIDS TO TEACHERS OF AGRICULTURE

By H. L. Bolley

The botanical department of the Agricultural College has for a number of years been giving special attention to the preparation of collections which are easily stored in the rural aschool and high school and which are of such nature as should aid the teacher to start out on a proper study of some of the principles of botany as applied to agriculture.

One of the first aids was a collection of weed seeds, representing the seeds of 26 of the most common and destructive weeds. Later, a second collection was prepared, containing 26 samples of seeds commonly found as admixtures in seed grain and seeds of forage plants. These specimens are all nicely labeled and enclosed in cloth cases. The price to resident teachers and school boards, \$1.00 for each collection; non-residents, \$2.00 each.

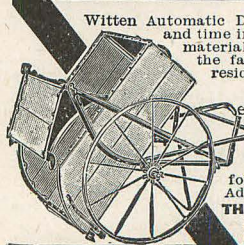
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has large capacity; is light, but strong—guaranteed fully. Write for folder NOW. It is free.

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A collection of plant diseases, representing 20 of the most destructive plant diseases of the state have been put up in similar manner so that the teacher has a clear idea of when to get bulk material and where to get them. The cost to teachers and school boards of the state, \$2.00.

The latest collection prepared for this work in elementary agriculture is a collection of standard specimens of plants which are usually considered weeds. This collection is so prepared as to represent the seedlings and the mature plants mounted on heavy bristol board. Each plant is labeled to show habits, and suggestions are given as to methods of preventing injurious development in crops. The set is enclosed in a heavy cloth case and will be shipped, express paid, to any teacher or school of the state on receipt of \$2.50, or for \$3.00 to a non-resident teacher or school board.

The weed collection will be sold only to teachers and school boards, because in reality it cost too much labor to prepare and we wish to place them where they will be of most use to the public.

Persons wishing any of these should apply to W. A. Yoder, secretary of the college, enclosing check to cover cost.

#### TEST SEED GRAIN J. H. Worst

Owing to the continuous rain in many sections of the state, immediately following harvest, the quality of all grain intended for seed may be questioned. Complaints of poor seed germination are not confined to corn. It is claimed that wheat, oats, barley, and flax, in some sections, are not up to standard for seeding purposes. Under no circumstances, therefore, should farmers take any risk, but instead he should make a seed germination test of all

small grains, as well as of corn. Durum wheat is mentioned most frequently as having low germination strength. Complaint also comes of barley, oats and other wheats. Under the circumstances, therefore, we advise farmers to test all seeds intended for planting.

To make the test, take 100 or 200 kernels from different places in the grain; plant these in a box of soil, moisten well

and let stand 5 or 6 days. Then count the ones that have sprouted. Remember that the grain will not grow as well in the field as in the house.

#### BUSINESS MEN ARE BACKING THE FARM HUSBANDRY COURSE

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## Kill Them Before They Ruin Your Crop and Soil

Every year the gophers rob you of 3 to 5 bushels of grain per acre. They eat the seed, the tender shoots and the juicy joints. They keep throwing up non-productive soil, little by little, until eventually they ruin your farm. The farmer with gopher infested land, has a mighty serious problem on hand. Why don't you use Mickelson's Kill-Em-Quick Gopher Poison? Thousands of farmers who have used it say it does the work thoroughly, cheaply and quickly. One 75c box will kill all the gophers on an 80 acre field. So

### 75c Saves \$200 to \$400

because there are at least 2000 gophers in an 80 acre field, and each gopher costs you 10c. And every pair raises about 36 young ones a year. Why don't you stop that big loss this year—now. Go to your druggist and get a box of Kill-Em-Quick, or order direct, express prepaid, if your druggist does not sell it. It is absolutely guaranteed to do the work. If it fails, I personally will refund every cent of your money. Kill-Em-Quick is the most economical poison because it kills the most gophers per dollar invested. Mickelson's

## Kill-Em-Quick Gopher Poison

will rid your fields of gophers, squirrels, field mice, pocket gophers and prairie dogs for less than one cent per acre. It has a peculiar odor and taste that is attractive. It draws them like a magnet and the merest atom taken into the stomach kills them instantly. It doesn't merely sicken them—it kills. Dead pests are the only kind it pays to have on your farm. Right now is the time to put Kill-Em-Quick into your fields. It is easy to use, quick-acting and cheap. Ask your druggist. Don't take anything except Kill-Em-Quick, the guaranteed Gopher Poison.

### Write Me a Postal Quick

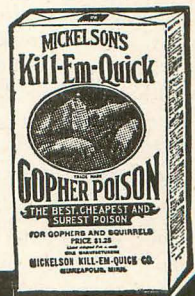
I want to send you my free book that tells you how to kill every gopher on your farm—how to save \$200 on every 80 acres—how to use Kill-Em-Quick for best results. Mail me a postal or letter now. Address me personally.

ANTON MICKELSON, President

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End of North Bridge, N. P. Ave.



given in the Farm Husbandry Course at the North Dakota Agricultural College, that they are putting up scholarships with the idea of encouraging more young men to secure this kind of education which not only prepares them for farm life, but inspires them with a desire to follow that vocation,—to devote their energies to the improvement of agriculture.

To encourage young men to secure an education that bears directly upon farm life, the Northern Pacific Railway Company, thru its President, Mr. Elliott, offered ten scholarships annually, of \$50 each, to young men completing with credit the third year's work of the Farm Husbandry course,—not more than one scholarship, however, to go to any one county thru which the Northern Pacific railroad is operated. This generous offer was duplicated by the "Soo" Railway Company, thru its President, Mr. Pennington, to apply to counties thru which the "Soo" railroad is operated. Mr. Webber of the Deere & Webber Company, Minneapolis, contributes four scholarships annually, while P. J. Lyon of the Gas Traction Company, contributes three scholarships annually; and the Studebaker Brothers Company and Mr. F. D. Moody, of the Emerson-Newton Implement Company, each contribute annually one scholarship. The North Dakota Bankers' association has also agreed to furnish similar scholarships as rapidly as needed.

Education too often draws young people away from the rural districts. The purpose of these business men is to counteract that influence by encouraging a system of education that prepares young people to turn their energies and desires toward the development of country life.

Under this arrangement, young men are encouraged to enter the Farm Husbandry School with the assurance that, upon completion of the course, twenty-five or more, with highest standings, will receive scholarships. The number receiving scholarships, however, may be extended indefinitely. Each scholarship student enters

into an obligation to render an equivalent service that will bear directly upon improved farm methods.

## QUERIES and ANSWERS

### VELVET CHAFF WHEAT VS DURUM

Which will stand the freezing the best in the spring, velvet chaff or durum wheat, or which would you advise sowing first in spring.

Which is best for horses, corn on the ear, shelled corn, ground corn? Is corn, ground

cob and all, good for horses and is there any food value in corn cobs?

Lidgerwood, N. D.

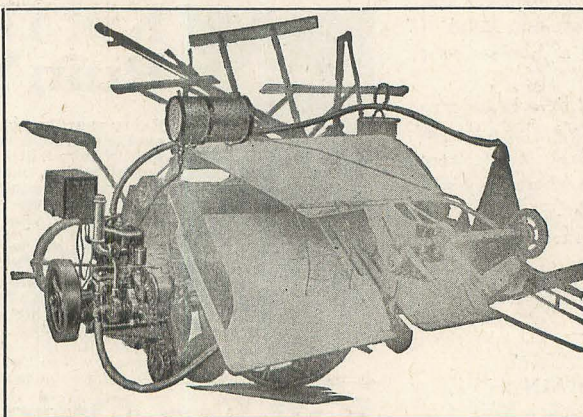
U. V. R.

**Answered by Prof. Shepperd**

I do not believe you will find any difference in cold resistance between velvet chaff wheat and durum wheat.

There is little difference in their feeding value. Both should be ground to be fed to horses. The durum has a little more of protein and should be slightly better on that account as feed. Use some bran or oats with wheat in feeding it as it is too heavy to feed alone.

Corn on the ear is a little better for the average horse than shelled or ground corn



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Four Successful  
seasons as the  
4 H. P. 167  
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as they cannot eat it so fast. Unless the teeth of horses are in bad condition, they do not need their corn ground for them. The droppings will be a good indication as to whether they are chewing the corn properly.

Corn and cob meal (the corn and cob ground up together) gives about as good results from the cob meal mixture as from pure corn meal. Corn cobs are woody and contain little digestible matter but they distend the pasty corn meal and help it to digest more readily. That probably is the reason it gives the beneficial results mentioned when fed.

### TIMOTHY SOD FOR POTATOES

What do you think of my idea of breaking up early this spring (between 4 to 5 inches deep) a three-year old timothy pasture that has been mostly all manured, and plant same to potatoes, using a machine planter? Would you advice to run a disc harrow over the breaking, then plant, then inside of a few days follow the planter marks with a disc cultivator, then in about a week cross drag it down level; then when potatoes are up go on with a shovel cultivator? Do you think this land would produce as good a crop as that planted on old land, plowed last fall?

Second, we have a good many tons of wild millet hay in bunches now out, on the field where we raised potatoes last year. I think my cattle will eat this well, but we have hesitated to feed this for the reason the potato vines were sprinkled with Paris green once during the summer. The potato vines were very small on account of neglected cultivation, and the black bug had most of the leaves stripped off when they were sprayed.

The wild millet made a good growth and the field was cut with a mower and raked into bunches and thrown out of the way for the digger.

Is this dangerous to feed to the cattle?

Is it necessary to plow this land before seeding it, if sowed to either barley, wheat or oats?

Christine, N. D.

C. A. H.

### Answered by Prof. Shepperd

If you break the timothy sod which you figure on breaking this spring, it should do reasonably well for potatoes if you will work up the ground by very thoro discing after you plow it. If the sod is not very well reduced, it will bother you in cultivating your potatoes and the crop itself will not have a chance to do right. Such land will be better than old land which has not been manured or brought up into such good shape, even tho the latter was plowed last fall and to a depth of several inches.

The Paris green that you sprayed on your potato vines during the middle of the summer will be washed off until there will be no risk in feeding the wild grass that grows with them to your cattle.

Potato ground usually gives better results from being double disced for the different small grains than if it is plowed in the spring.

### EARLY POTATOES

Will you please advise me by return mail what kind of potatoes to plant for good early potatoes, also what time to plant and how deep?

Devils Lake

C. M.

### Answered by Prof. Shepperd

The Early Ohio potato is of high quality and the most popular market potato of this northwest country. It is one of the earliest varieties. Potatoes may be planted quite early, as it takes a rather heavy frost to seriously injure the plants. About the first of May is the usual potato planting time. I would plant them four inches deep.

### OCEAN TO OCEAN HIGHWAYS FOR AUTOS

The dream of the auto enthusiast, that America was some day to have a great transcontinental highway, spreading across the continent from the Atlantic to Pacific is to come true if brains and money will bring about the stupendous undertaking.

millions, has taken an interest in the plan and, in furnishing the car for the pathfinding of highway, has signified its intention to exert its powerful influence in favor of the great road.

The Case pathfinder, equipped as no other car was ever equipped for a transcontinental journey, and driven by the world's greatest road driver, left Los Angeles on Wednesday morning. City and state officials of Los Angeles and California sent the sturdy Case machine on its long journey and as it left the front of a great Los Angeles newspaper, it was given a mighty send off by the thousands that had congregated to send it on its way.

The Case car and its occupants are due to arrive in Washington in time to put the matter properly before Congress and then both the national democratic and republican conventions will be invaded and the Ocean to Ocean highway plan taken up as a national issue.

America today is in the throes of the greatest road building movement the world has ever known. Everywhere there is interest and everybody is interested and all the years that have passed in which the roads of the country have been neglected are now forced into oblivion by the combined effort of the press, state and nation and the proposed plans of the new Ocean to Ocean highway are to be pushed forward without the sparing of brains or



One of America's foremost newspaper publishers has turned loose his millions to inaugurate the plan and to show that he means business, he has started a Case touring car across the continent to ascertain the best possible route.

Harvey Herrick, the world's road champion, is at the wheel of the Case machine and representatives of the newly organized Ocean-to-Ocean highway association are making the trip and drawing maps and organizing highway clubs to promote interest in the new transcontinental road.

The great Case company, with its

money in order to have the highway completed before the holding of the Panama-California and the Panama-Pacific Expositions.

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### TEST YOUR SEED CORN

A large proportion of the seed corn offered for sale or on the farms in this state will not grow. This makes it important for all farmers to test their seed corn early. Buy all corn on test, then test again to be sure the germinating power is retained. Corn should be tested whether purchased from seed houses or taken from the farm grown seed. Planting corn of low germinating power will result in disappointment in stand and yields.

Test corn whether it is shelled or is on the ear. The ear test will enable one to select the highest testing ears in producing this year's crop. Ears which show poor germinating power or low vitality may be used to a certain extent in the field crop by sowing in drills for fodder corn.

Corn which will test 75% or over showing a strong vitality should be retained this year for seed. It will be advisable in many localities to plant corn even tho it tests as low as 50%. Such corn should be sown in drill rows rather than checked in. It should be of some good variety.

Among the best varieties of corn recommended for North Dakota, is the Northwestern Dent, Golden Dent, White Cap, Yellow Dent, Gehu Triumph, and Mercer. The Flint varieties should be made use of in all northern sections of the state. The Dent varieties are especially valuable in the southern and southeastern parts of the state. Always plant a variety which will mature under the conditions in your locality. Maturity is of the utmost importance.

The seed corn situation is a difficult one. Every effort should be made by the North Dakota farmers to maintain last years' acreage. If it is necessary to plant the acreage to low test corn, let it be of a good variety. Know first, what your test is so as to determine the amount which should be sown to the acre. Buy your seed corn early. So far as possible obtain seed grown in your own locality. Test it so that you may know what you are planting and can govern yourself accordingly.

Approved, Thomas Cooper, Secretary.

### DRY FARMING CONGRESS AT MANDAN

Morton County Dry Farming Congress held the boards at Mandan the 13th and 14th of March. The meeting was held at the Commercial Club rooms. Many of the best farmers of the county were in attendance. Much of the time was taken up with discussions. Mr. Nelson of Glen Ullin, the president was present, but prevailed upon Supt. Hoverstad to pre-side over the meeting.

The program included some of the best dry farming experts in the Northwest. Prof. Thomas Shaw in his address on dry farming called attention to the fact that

dry farming can not be carried out in one year. The preparations for the crop must begin the year before. He recommended that a part of the farm be summer fallowed and a part of it put into a cultivated crop. So that the grain crop shall come after a cultivated crop or on summer fallow.

D. E. Willard who made a geological survey of the county called attention to the fact that the soils contain a large percentage of silt which gives them good water holding capacity. He urged that the farmers study the nature of the soil and handle it according to its fineness or coarseness.

A. E. Chamberlain discussed the principles according to which water moves in the soil. He demonstrated that the moisture moves freely thru a compact soil but very slowly thru a loose soil. He advocated deep plowing and the making of a good seed bed. He advised discing before the plow in order to make this seed bed. The point he emphasized was to have the soil in a condition so that the plant roots come in contact with fine soil that is well supplied with moisture.

L. R. Waldron in talking alfalfa classed the alfalfa as the best forage plant that this section has and that it ought to be grown much more extensively than it is at present. That it will yield on an average two tons to the acre. He reported that in his experiments he had had good results with growing it in rows and that sown in this way it will resist dry weather better than when grown in drills. He reported good results with the growing of sweet clover, that it has about the same feeding value as alfalfa and that stock will eat it and do well on it when they get used to it. He also reported that he had taken the wild sand cherry and by cultivating it had developed it into quite a bush and that he had picked as much as a peck of fruit from each plant after it had had care for a few years. He has also tried the wild Missouri currant and found that it yielded much heavier than the cultivated currants.

The importance of fertility in dry farming was discussed by W. C. Palmer. He called attention to the results secured by Dr. Widtsoe of Utah who has found that it

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In Benson County, North Dakota  
320 acres. 280 acres in cultivation.  
Located 3 miles west of Leeds and  
3 miles east of York. Good house  
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Foley, Baldwin Co. Alabama

## SPLENDID CROPS

In Saskatchewan (Western Canada)  
800 Bushels from 20 Acres



of wheat was the thresher's return from a Lloydminster farm during one season. Many fields in that as well as other districts yielded from 25 to 35 bushels of wheat to the acre. Other grains in proportion.

**Large Profits**  
are thus derived from the FREE HOMESTEAD LANDS of Western Canada.

This excellent showing causes prices to advance. Land values should double in two years' time.

Grain growing, mixed farming, cattle raising and dairying are all profitable. Free Homesteads of 160 acres are to be had in the very best districts; 160-acre pre-emption at \$3.00 per acre within certain areas. Schools and churches in every settlement, climate unexcelled, soil the richest; wood, water and building material plentiful.

For settlers' low railway rates and illustrated pamphlet, "Last Best West," and other information, write to Supt. Immigration, Ottawa, Can., or Can. Gov. Agt.

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Clifford Block Grand Forks, N. D.

**STRAND'S HARDY EVERGREENS**  
THAT GROW AND PLEASE. You can succeed with them. Our CATALOGUE tells how, and describes our hardy Northern Trees, Vines and Flowers at HALF the prices others ask. Write, it's FREE.  
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TAYLORS FALLS, MINN.

**Potatoes**  
Salzer's Potatoes are known the world over for extreme earliness. The editor of the Rural New Yorker gives to Salzer's Earliest Potato the astonishing yield of 464 bushels per acre!  
**Salzer's Earliest Potato Collection.**  
Composed of four rare earlies and one later sort, separately packed, full weight, per bbl. only \$4.00. Catalogue tells!  
**For 16 Cents.**  
10,000 kernels of splendid Lettuce, Radish, Tomato, Cabbage, Turnip, Onion, Celery, Parsley, Carrot, Melon and Flower Seeds producing bushels of vegetables and flowers for 16c postpaid.  
Big vegetable and farm seed catalogue free for the asking.  
**John A. Salzer Seed Co.**  
215 So. 8th St., La Crosse, Wis.

## NORTHERN GROWN SEED

Corn, Clover, Grass Seed, Seed Grain  
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requires less moisture to produce a crop on a well handled soil than on one that is poorly handled. For instance corn grown on summer fallow or on land that had been manured made more growth with a given amount of moisture than did corn growing on land that was in poor shape. This means that keeping the soil fertile is one of the most effective ways of making the water do the most good.

A telegram from Mr. John T. Burns, Secretary of the International Dry Farming Congress was read. He wished the management much success, and urged that exhibits and delegates be sent to the Dry Farming Congress that will be held at Alberta next October.

In the election of officers Mr. J. T. Nelson of Glen Ullin was reelected, Mr. E. N. Bosworth of Flasher was elected Secretary.

Mr. E. L. Timmerman of Mandan and Mr. E. N. Bosworth of Flasher were elected delegates to the International Dry Farming Congress.

Many of the farmers present reported good results with the dry farming practices.

#### \$25,000 FOR BETTER FARMING IN RANSOM COUNTY

Ransom County Better Farming Association Organized with Headquarters at Lisbon

#### O. W. Uhloun is Engaged as Expert and Will Give Practical Demonstrations and Advice to The Farmers

The business men of the county having pledged \$5,000 per year for five years to defray the expense of an expert to carry on the work.

The Ransom county association will act in conjunction with the State Better Farming Association which has branches in different counties of North Dakota.

O. W. Uhloun, who comes from St. James, Minn., has been engaged as the expert in this county and arrived in Lisbon last Tuesday where he will make his headquarters. Mr. Uhloun comes well recommended and it is said that he has a thorough knowledge of agriculture, both practically and theoretically.

The expert will be at all times ready to serve the farmers in any way possible by advising them as to what kind of crops is best to sow, the best method of preparing the land, selecting the seed and cultivating and harvesting the crops. He will have the complete supervision of some tract of land that he may practically demonstrate the benefits of the systems he uses, and the results he receives will be printed in circular form and distributed among the farmers. The tract of land upon which Mr. Uhloun will carry on his demonstrations will be donated by a farmer, who will derive all

the pecuniary benefits from the crops grown on the land. The land to be used for this purpose has not yet been decided upon, but will probably be located near Lisbon so as to be easily accessible to the expert.

Besides giving personal advice, the expert will from time to time prepare and have printed circulars for distribution among the farmers, relating to some phase of the better farming plan. He has already sent out circulars informing the farmers of the purpose of the Better Farming association and telling how to select seed, the treatment of plant diseases, what grains are best adapted to certain sections and kindred subjects. This circular is well worthy of the careful perusal of every farmer. If you have not received one of these circulars it can be obtained by writing the secretary of the Commercial club at Lisbon.

Those who have had the purpose of the Better Farming Association fully explained to them are very enthusiastic over the project. Those who have carefully studied the question are convinced that the association will be worth thousands of dollars annually to the county, benefiting both the farmers and business men. It will in reality be grabbing an agricultural college almost to the very door of the farmers of the county, and by giving them a knowledge of the science of farming, which cannot be obtained by the average man in years of practical work in that line, will increase many times the profits obtained by tilling the fertile lands of Ransom county.

It is up to the business men to encourage the new movement and to the farmers to take advantage of it, so that Ransom County may truly be called the garden spot of North Dakota.—Sheldon Progress.

#### ADVANTAGES OF THE LEFT SIDE DRIVE AND CENTER CONTROL By Ransom E. Olds, President Reo Motor Car Company

Among the various new features which are embodied in my latest creation—the Reo the Fifth—which is the twenty-fourth model which I have designed and built since I began building automobiles in

1887, the new Reo right-hand center control with the Reo left-hand drive continues to elicit a lively and friendly interest and enthusiasm from motor experts everywhere.

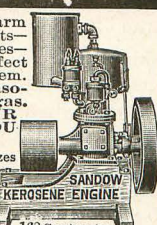
**Sandow \$37<sup>50</sup>**  
**2½ H. P. Stationary Engine—Complete**

Gives ample power for all farm uses. Only three moving parts—no cams, no gears, no valves—can't get out of order. Perfect governor—ideal cooling system. Uses kerosene (coal oil), gasoline, alcohol, distillate or gas. Sold on 15 days' trial. **YOUR MONEY BACK IF YOU ARE NOT SATISFIED.**

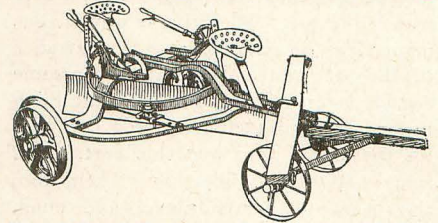
5-year ironclad guarantee. Sizes 2½ to 30 H. P., at proportionate prices, in stock, ready to ship. Postal brings full particulars free. Write for proposition on first engine in your locality. (116)

**SANDOW KEROSENE ENGINE**

163 Canton Ave. Detroit, Mich.



#### FOUR HORSE ROAD GRADERS



**Rural Road Grader and Irrigation Ditcher and Edwards New Reversible Road Grader**  
Besides Graders I manufacture the best **STEEL ROAD DRAGS**  
Don't buy GRADERS or DRAGS before you get my Prices and Descriptive Catalog.



Clearing land with one of my Stump Pullers. Catalog will come for the asking.  
**C. D. EDWARDS, ALBERT LEA, MINN.**

**BIG MONEY in the OFF SEASON**

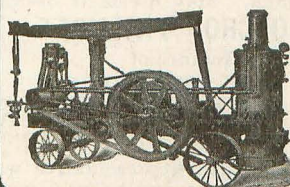
**One Man can run it.**

**Earn \$2000.00 a year** extra money, besides your regular farm work, with the **Improved Powers Boring and Drilling Machine.** Bores a well 100 ft. deep in 10 hours. One man can run it; a team operates it and easily moves it over any road. Bores everything except hard rock, and it drills that. No tower or staking; rotates its own drill. Easy terms; write for catalog.

**Lisle Mfg. Co.**  
Box 540 Clarinda, Iowa.



#### Well Drilling Machinery



You can make big money making wells. This is one of the few lines of work that are not over crowded. The demand for wells is far greater than can be supplied by the machines now at work. Well Drillers command their own prices. We build the celebrated **HOWELL** line of Well Machinery, for making deep or shallow wells of all sizes, for all purposes and in all kinds of ground. Our machines are the most up-to-date on the market, contain all the latest improvements, are extremely strong and simple, do perfect work, are easily operated and are very **FAST WORKERS.** Write to-day for our free Catalog A. 6

**R. R. HOWELL & CO., Minneapolis, Minn.**



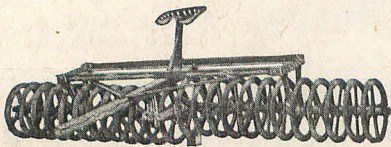
All the gear shifting is done in Reo the Fifth by a rod in the center, shaped like a cane handle, engaging direct with the transmission. This center control, housed in a dust proof case, does away with all outside levers, rods and connections, thus eliminating every possible chance of dust, dirt and mud accumulating between any outer working parts of the speed changing mechanism. This makes for maximum safety and efficiency and happily solves a problem that has long challenged the ingenuity of the foremost automobile engineers of the world.

A very slight movement in one of four directions, takes you to low speed, to intermediate, to high speed or reverse. In changing from one to the other, the top of this handle hardly moves more than three inches. So the handle never gets in the way.

Both sets of Reo brakes are operated by foot-pedals, thus making the outside free from all levers. The driver's way is thus made clear, on either side, as the entrance to the rear seat. With all bothersome outside levers removed, the Reo the Fifth is especially adapted for closed cars and for the use of tops and side curtains in rainy and stormy weather. Then, too, the absence of all outside levers adds much to the car's grace and appearance.

The handle of the Reo center control is easily removable. This done, the gears lock automatically thus insuring the owner against the wide-spread joy-riding of drivers which so often proves disastrous to the owner and the driver, as well as to the public at large.

I have received thousands of enthusiastic commendations from motorists everywhere on the simplicity, convenience and efficiency of this Reo center control and as this is but one of the many strong and advanced improvements embodied in this, my topmost achievement in automobile building, I await the outcome, confident in the belief that the great mass of intelligent automobile buyers thruout the globe will center around the car, as they have in the past, whose popularity, and success are based upon simplicity, advanced design, durability, longevity, economy, safety, comfort, reliability and maximum efficiency.



"The above cut illustrates the sub-surface packer which is made by The Dunham Company, of Berea, Ohio. Their catalog illustrating their full line will be sent upon request.

The sub-surface packer is of great value as a pulverizer of both surface and sub-surface clods. A grooved land roller

crushes surface lumps, packs the soil to a certain degree and firms it around young plants, but is not intended to pack the sub-soil like this implement.

The wedge-shaped wheels pack and pulverize the soil just as a fork crushes a boiled potato. It is a very practical and essential tool for the dry land farmer and one that he cannot well afford to be without. The sub-surface packer also aids greatly in the conservation of moisture. This company has also issued a book entitled "Conservation of Moisture" which will be mailed free to all asking for it."

### CREAMERY HELPS THE FARMER G. L. Martin, Agricultural College

A cooperative creamery, well organized, tends to focus the interest of the farming community, so fosters the boosting spirit. It enables the farmers to diversify their crops, keeps more cows to utilize the unmarketable roughage, so it turns the waste products of the farm into profit.

With a share in the creamery every farmer becomes both a producer and a manufacturer, to shorten the distance from the farm to the consumer, consequently saves the profits of the middlemen and the manufacturer for not infrequently the output is sold directly to the consumer.

The farmer who keeps cows has the use of the creamery by-products—skim milk and buttermilk. These are valuable in combination with grains for feeding all kinds of young stock. In fact, calves, pigs, and poultry never do better than when given liberal amounts of creamery by-products.

Perhaps the most important advantage of the creamery is the fact that cash comes into the home every month of the year in flood time or drouth just at a time when the store bills come due and the household necessities are needed.

## For Sale

### Fine Farm in the Best Watered Valley in Montana.

Forty acres under plow. A never-dry river runs across corner. County Road runs diagonally thru land. Irrigation ditch north of land, if you care to use it. Five miles to railroad. One of the finest apple orchards in world near mouth of valley. 400 acres plowed. Fine for grain, flax, etc. 225 acres grazing land. May divide if desirable.

### NO CROP FAILURES

Inquire of

R. M. SCHMERLER

17 South Sixth Street, Mpls. Minn.

A correspondent-representative wanted in every county. Write for terms.

## LEARN HOW To Kill Gophers by Mail

From A North Dakota Farmer who by actual experience—professional aid—INVENTED, PATENTED and for 9 years improved the famous

### BILLE'S GOPHER POISON

#### IT'S NO TRICK

#### AND \$-M-A-S-H GO

Seventy-five cents on every gallon in manufactures, jobbers and retailers profit, including the price of the bottles, cartoons, boxes and freight. JUST MIX 35 CENTS WORTH, then compare results with any PACKAGE or BOTTLE of poison obtained from dealers for \$1.25

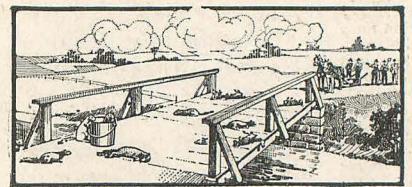
### THIS BOTTLE MY PATENTED FORMULA FULL DIRECTIONS



Bottle and Formula Only \$2.25

#### HAS ALWAYS MADE GOOD

### 13 KEELED OVER DEAD 13



#### FARMERS WOULD YOU BELIEVE

these 6 farmers who witnessed this test, if they came to your home and told you that the Odor of this poison attracted 15 gophers from nearby field upon this bridge, and that 13 who could not resist its delightful taste, ate and keeled over dead. Or Imagine

#### IF THOUSANDS

AND THEY KNOW, personally told you. "This is an Ideal Poison it kills the gophers and rids the fields of the pest even during late months when all other poisons fail." Or if MEN like State Chemist Prof. Ladd, State Agricultural and Experiment MEN, Prominent Editors, Senator Tolbet, of Alberta, Can. and County Commissioners

#### CAME TO YOUR HOME AND SAID

"We have analyzed it, we have tried it, we have tested it, and we highly recommend it." YOU WOULD BE CONVINCED AT ONCE.

MY BOOK BRINGS THESE MEN TO YOU not in person, but in writing, and what they say every farmer should know. We want names and addresses, we want to send that book free to you, and Canadian farmers. We sell strychnine that is genuine for from 60 to 85 cents per ounce, you save more on strychnine than the price of my formula.

OUR SPECIAL OFFER GOOD UNTIL JUNE 1 Send \$1.50 and 10 or 15 names of farmers who need poison and we will prepay one bottle and formula, ENOUGH TO PREPARE 6 GALLONS, with privilege of more bottles this season for \$1.00 each.

#### AGENTS WANTED IN EVERY COUNTY

Our cash and easy payment plan induces every farmer to buy. EXTRA PROPOSITION to County Commissioners, Farmers' Clubs, Township Officers, Etc. We sell on approval, unless satisfied don't pay. Among our references are Pres. Worst and E. F. Ladd of State Agricultural College.

Write, let's get acquainted.

### THE DAKOTA MONTANA GOPHER POISON CO.

BALFOUR, NORTH DAKOTA



**Agriculture in Congress**

Representative Austin of Tenn. has introduced a bill in the House authorizing the Government to participate in the National Conservation Exposition, to be held at Knoxville, Tenn., during the fall of 1913. Among other exhibits of the workings of the National government provided for, is that relating to the advancement of scientific agriculture and the increase of the productivity of the soil thru improved cultivation and crop selection and the prevention of avoidable wastes. The bill provides for an appropriation of \$200,000 in aid of the proposed exposition, provided a like amount is raised by the exposition company. (H. B. 22330)

**Tuberculin Test Accurate**

Some opponents of the tuberculin test bring out an argument in defense of their content that frequently animals which react to tuberculin fail to show any lesions of tuberculosis when dissected. An official

of the Bureau of Animal Industry of the Department of Agriculture, in discussing this phase, said: "In a number of cases lymph glands from cattle of this character have been forwarded to our Bureau for bacteriological examination, and in many instances it is found that the tuberculin reaction was correct, altho the tuberculous lesions were not well advanced. In this class of cases the demonstration of living tubercle bacilli within the tissues affords sufficient justification of the tuberculin reaction."

The attempt to make the production of denatured alcohol a self-sustaining feature of American agriculture has thus far not succeeded. In Germany, where the greatest success has been achieved, alcohol production forms rather one feature in a system of diversified agriculture and is not attempted as a separate enterprise.

**ATTENTION Farmers and Gardners**  
Earliest green eating corn grown New Variety. A great novelty. Earlier than any sweet corn. Very hardy. Fine. Just originated, and I have the only genuine seed and this is the first offered for sale. Order a few packages at once and be surprised. Supply limited. Price 15 cents a package, 3 packages 40 cents, 6 packages, 75 cents. Address  
Geo. E. Co., Dept. C, Hamilton, Wyo.

**EUREKA SEWING AWL****"THE-FARMER'S-FRIEND"**

The Best Awl on the market. Our largest seller. Sent complete with three needles and thread for \$1.00 postpaid. Address  
**EUREKA SUPPLY CO.**  
228 Zara St. - - - - - Pittsburg, Pa.

North Dakota Farmer: Fifty Cents a year; 3 yrs., \$1.00. Agents wanted.

**ENGINE BUYERS' GUIDE FREE**

Handsomest, most elaborate, most valuable book ever issued by any manufacturer. Tells how to buy just the engine for your particular purpose; instructs you how to judge engines like an expert. **Get the Real Facts About Kerosene Engines**

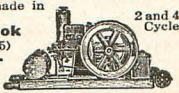
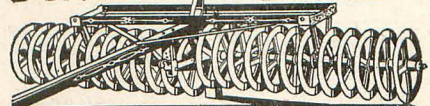
Learn how you may save the whole cost of a UTICA Engine by saving in fuel cost. Find out how the UTICA gives you 25 to 40 per cent more power, using kerosene.

**Post Yourself on the Long-Stroke UTICA**

The only stationary engine using the marvelous long-stroke feature now adopted by the biggest auto manufacturers. The greatest advance made in engine building in twenty years.

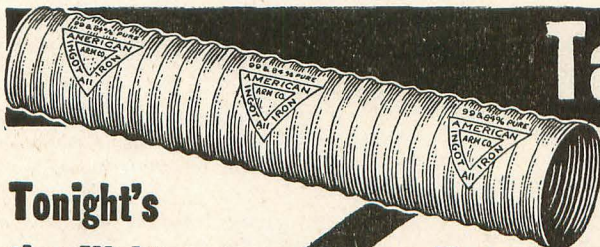
**Write Now for the FREE Book and Our SPECIAL OFFER** (15)  
Don't wait; get the facts, then decide.  
30 days' trial; 10-year guarantee.

**UTICA MANUFACTURING CO.**  
79 Lafayette St. Utica, N. Y.

**DUNHAM Sub Surface Packer****SEND FOR FREE CATALOG**

Packing the sub-surface conserves moisture, eliminates air pockets and makes a perfect seed bed for better crops. Dunham Packers, Pulverizers and Rollers are made for every purpose and all soil conditions. On sale near you. Write for complete catalog and special booklet on the Conservation of Moisture.

**THE DUNHAM Co.** 46-94 1 Ave. Berea, O



**Tonight's  
the Night  
to Write**

**Taxpayers Save Money**

Taxpayers, county officials, road builders, etc., can save money, time and labor by using American Ingot Iron Corrugated Culverts. They outlast all other metal culverts. First cost low—maintenance nothing. Spring freshets won't wash out, crack or break them, like bridges and other culverts.

**Frost or Rust Won't Harm This Culvert**

Concrete, stone, tile or brick culverts are smashed by Jack Frost. American Ingot Iron Culverts are unharmed. These culverts are *not* made of steel but American Ingot Iron—guaranteed 99.84% pure. Steel, on account of its impurities, rusts and corrodes quickly. American Ingot Iron, due to its purity, resists rust for many years. This is why American Ingot Iron Culverts outlast steel culverts many times over. Easy to install—never out of order.

**AMERICAN INGOT IRON**  
Guaranteed **CULVERTS** 99.84% Pure Iron

Leading railroads of America are displacing concrete, stone, tile and brick culverts with this wonderful metal corrugated culvert. And this *after* they have tried all other makes. *They know* that American Ingot Iron Corrugated Culverts never buckle under heavy loads, or corrode, crack or rust. Look for the triangle trademark on every piece—it

insures you getting the genuine American Ingot Iron. Only the manufacturers named below make American Ingot Iron Culverts. There's a lifetime's service in every section. Put the proof up to them. After the chores are done tonight—drop a line to the nearest manufacturer. He'll send you lots of money-saving culvert pointers.

**Write to Nearest Manufacturer**

Dixie Culvert & Metal Co., Little Rock, Ark.; Atlanta, Ga. California Corrugated Culvert Co., Los Angeles, Cal.; West Berkeley, Cal.; Reno, Nev. Colorado Ingot Iron Pipe & Flume Co., Colorado Springs, Colo. Delaware Metal Culvert Co., Clayton, Del. Illinois Corrugated Metal Co., Bloomington, Ill. W. O. O'Neill Company, Crawfordsville, Ind. Princeton Sheet Metal Company, Princeton, Ind. Fort Dodge Culvert Company, Fort Dodge, Iowa. Independence Corrugated Culvert Co., Independence, Iowa. The Road Supply & Metal Co., Topeka, Kan. Kentucky Culvert Company, Buechel, Ky. New England Metal Culvert Co., Palmer, Mass. J. N. Spencer, Havre de Grace, Md. Michigan Bridge & Pipe Company, Lansing, Mich. Bark River Bridge & Culvert Co., Bark River, Mich.; Eau Claire, Wis. Lyle Corrugated Culvert Company, Lyle, Minn.; Minneapolis, Minn. Corrugated Culvert Company, Moberly, Mo. Montana Culvert Company, Missoula, Mont. North Carolina Metal Culvert Co., Greensboro, N. C. Northwestern Sheet & Iron Works, Walpole, N. D. North-East Metal Culvert Co., Nashua, N. H. Pennsylvania Metal Culvert Co., Flemington, N. J.;

Warren, Pa. Economy Culvert Company, Auburn, N. Y.; Nebraska Culvert & Mfg. Co., Lincoln, Neb.; Wahoo, Neb. Ohio Corrugated Culvert Co., Middletown, Ohio. Oklahoma Corrugated Culvert Co., Shawnee, Okla. Security Vault & Metal Works, Portland, Ore. Sioux Falls Metal Culvert Co., Sioux Falls, S. Dak. Atlas Metal Works, Dallas, Texas. Lone Star Culvert Company, Houston, Texas. Western Metal Mfg. Co., El Paso, Texas. Tennessee Metal Culvert Company, Nashville, Tenn. Utah Culvert Company, Woods Cross, Utah. Virginia Metal Culvert Company, Roanoke, Va. Spokane Corrugated Culvert & Tank Company, Spokane, Wash. Wisconsin Culvert Company, Madison, Wis.

Tell us your road troubles and plans—we will send you expert advice.



**American  
Ingot Iron May Be Had in  
Sheets, Plates, Roofing and Fence Wire**

**Start  
Your Letter  
Off Tonight!**

(4)



# North Dakota Farmer

Entered as second class matter in the postoffice at  
Lisbon, North Dakota.

**PUBLISHED EVERY MONTH**

**W. G. CROCKER,** PUBLISHER.  
Lisbon, N. D.

**E. F. Ladd, Editor** FARGO, N. D.

**BUSINESS MANAGEMENT,** LISBON, N. D.

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**NEW TERMS: One Year, \$50 Two Years,  
\$75; Three Years, \$1.00; Five Years, \$1.50.**

Remittances should be made by Draft, Post-  
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All Articles and Editorial Matter should be  
addressed to E. F. Ladd, Fargo, N. D.

Address all business correspondence to the  
Lisbon office.

**Vol. 13      APRIL, 1912      No. 9**

There is no better farm insurance than a  
crop of corn and alfalfa.

The seed corn situation is very critical  
indeed. Are you on the safe side with  
tested seed?

The all-wheat farmer is only a farmer a  
part of the time. The rest of the time he  
is apt to devote to grumbling or something  
worse.

One of the signs of the times is the ad-  
vent of the silo. Remember that when  
erecting a silo you are building for a gener-  
ation and not for a few years.

Each of the senators charged with cor-  
rupt politics voted for the other and why  
not? It is very interesting to examine  
personnel of the vote for both Lorimer  
and Stevenson.

Don't forget that with the present moist  
condition of the soil the corn crop is the  
one most likely to succeed since by cul-  
tivation, even if the season is dry, you can  
prevent the escape of the moisture already  
in the soil.

The question is often asked why the  
farmers of the south accept and take ad-  
vantage of the suggestions made by agri-  
cultural experts much more readily than  
those of the north. Can it be that con-  
ceit is the cause of this condition?

It has been claimed that the political  
game in North Dakota has been controlled

from the Twin Cities, but it is very evi-  
dent that at the last election the people in  
the rural communities have taken a hand.  
The farmer of today is influenced by the  
literature that comes to him, to a great  
extent, thru the rural free delivery and not  
by parade and by the dictates of some lit-  
tle precinct boss.

There are two measures before Congress  
that are of vital importance to the farmers  
of this state and we urge our readers to  
write a personal letter to our senators and  
representatives at Washington favoring  
the parcels post and the Lever Bill for  
Agricultural College Extension, and at the  
same time ask for the defeat of the Lever  
Oleomargarine Bill. Bear in mind that a  
personal letter is fully as effective as a  
petition of names.

The "continuous wheat" farmer is being  
supplanted by the "diversifying" farmer  
and as surely as night follows day a "fat  
bank account" will supplant "bankrupt-  
cy." This was never more clearly demon-  
strated than at the Minot meeting where  
eight hundred or more farmers sat deeply  
interested in the discussions regarding  
alfalfa, silos, corn and the dairy. What a  
change!

Thruout the state the comfortable home  
is taking the place of the temporary dwell-  
ing. When building the new home we  
strongly urge careful preparation for com-  
fort. If you have neglected to plant trees  
do so now. It will be a mistake not to wire  
for electricity and pipe for hot and cold  
water. What were once considered lux-  
uries are now deemed necessities.

Now is the time to lay plans for a high  
grade exhibit at the county fair, the state  
fair and the industrial exposition at the  
state capital. The farmers of North Da-  
kota are protesting against the fakir ex-  
hibits at our state fairs rather than  
educational and farm exhibits. Bear in  
mind that you can no more effectively win  
the young folks for the farm than by en-  
tering products both animal and vegetable  
in the names of the children and by all  
means give each a plot of ground and a  
young animal for his **very own**.

You will aid both the North Dakota  
Farmer and your neighbors as well, if you  
will call their attention to the North  
Dakota Farmer. We are always glad to  
send to your neighbors sample copies at  
your request. You may aid still more by  
giving preference to the advertisements  
found in our columns, for without them  
the publication of the North Dakota Farm-  
er would not be possible. We believe we  
have helped our readers fully as much by  
rejecting some advertisements as we have  
by publishing others.

Farmers, you have yourselves only to  
blame if your seed should not prove viable.  
The seed department of the state has been  
pleading for months with the farmers of  
the state to send their seed to them to have  
it tested without cost. Prof. Bolley, as  
state seed commissioner, has even agreed  
either to inspect, or send inspectors to  
examine, corn about to be shipped to  
farmers. In a few sections of the state  
where seed has been furnished by the  
county commissioners the farmers so  
"assisted" have found to their horror that  
the seed was not viable. The prospects  
were never better for a bumper crop, but  
no amount of moisture and favorable con-  
ditions can produce a good stand of grain  
from **dead** seed.

The Holstein-Friesian Association of  
America have issued their Special Prize  
list. We find that at the 1912 North Da-  
kota State Fair to be held at Grand Forks,  
they will give a silver cup to the first prize  
herd, all except the bull to be bred by ex-  
hibitor.

The Percheron Society of America also  
offer prizes at both the Grand Forks and  
Fargo fairs this fall on Percheron stallions  
and mares.

Comfort, N. D., April 15th.

Dear Congressman:

I am in receipt of the bundle of seeds  
that the government has furnished you by  
the appropriation of \$200,000 made by  
Congress.

I see the government uses your name on  
the corner of the envelope instead of a  
postage stamp. Can it be that this and  
the large amount of franked political mes-  
sages that have been sent me occasioned  
the ruling to make my farm paper pay  
double its present postage?

Since you have so kindly favored me  
with these seeds I infer that you wish me  
to do all I can toward your re-election.

Respectfully referring you to the law  
passed by our last legislature termed "The  
Corrupt Practices Act," I remain

Yours respectfully,

I. M. NOTSOBLIND.

Don't forget that the man to whom you  
offer your grain and your livestock will  
judge you in a measure by your stationery.  
By all means name your farm and have a  
business letterhead as well as a return card  
on your envelope. A typewriter is by no  
means an extravagance. Now, to prove  
that we are in earnest, for two dollars we  
will furnish you 250 noteheads with your  
farm name and location and 250 printed  
envelopes and we will also extend your  
subscription three years. How much do  
you want a business letterhead? This  
offer is made **only** to paid-up subscribers.



## Pure Food Advertisers

The products advertised below are in compliance with the pure food law of North Dakota and of the highest grade.  
ASK YOUR GROCER FOR THEM.

“BUY”

“EAT”

### HOME BRAND

Pure Food Products

“ECONOMY” “SATISFACTION”

Griggs, Cooper & Co.

MANUFACTURING  
WHOLESALE  
GROCERS,

ST. PAUL, MINN.

Main Offices:  
CORNER THIRD AND BROADWAY

**DR. PRICE'S**  
**JELLY**  
  
**DESSERT**  
NUTRITIOUS-WHOLESOME

One package, 10 cents, makes one pint of wholesome Fruit Jelly. All flavors from true fruits.

## The Purest of Pure Food Products

are packed under the Brands of

*Nokomis*  
PURE FOODS

*Blue Bird*  
PURE FOODS

*Hawatha*  
PURE FOODS

*Wampum*  
PURE FOODS

**Stone-Odean-Wells Company**  
DULUTH, MINN.

BRANCH HOUSES-Minot, Bismarck, N. D. Billings, Bozeman,  
Butte, Great Falls, Mont.

MONARCH BRAND



FOOD PRODUCTS

A GUARANTY OF PURITY. A WELCOME GUEST at every table where the HOUSEWIFE demands the BEST. THE MONARCH LABEL insures QUALITY in Coffee, Catsup, Pickles, Maple Syrup, Canned Goods or any article bearing the MONARCH BRAND of REID MURDOCH & CO. CHICAGO.

## ANOTHER PURE FOOD PRODUCT

CEREKOTA

Self-Rising

Pancake Flour

Is a Scientific Preparation of Healthful Appetizing Ingredients  
and the Best Flour Milled in North Dakota

**GUARANTEED Pure and Wholesome**

Ask Your Grocer for a Trial Package

**Bemmels Milling Company**

Sole Manufacturers

Lisbon,

North Dakota



# Livestock Department

## FARM NOTES

N. J. Shepperd

Right planning saves time and labor.

Food given to unprofitable animals is wasted.

In a horse a poor appetite generally suggests some weakness.

Decaying organic matter in the soil gives warmth.

With a variety of stock one can utilize all foods.

There is no such thing as overdoing good farming.

Keeping stock upon the farm is better than buying fertilizers.

A high selling price does not lessen the cost of production.

Early matured stock are raised at greater profit than those maturing slowly.

The more time it takes to put on flesh the more it costs.

By feeding roughness on the farm the fertility of the soil is increased.

When you are your own customer you save the middleman's and retailer's profit.

When a variety is supplied more food is consumed and the better the digestion.

Thoro pulverization of the soil is one of the secrets of successful farming.

To maintain soil fertility requires two things, fertilizers and the rotation of crops.

Animals must relish their food if they are to get the most out of it.

Anything that saves labor or increases efficiency is a permanent benefit and for the common good.

It is a safe rule never to allow anything having a manurial value to go to waste.

It is not the hardest labor, but the best labor that accomplishes the best results.

Excessive feeding does not increase the power of assimilation and what food is not assimilated is wasted.

The moment an animal ceases to gain, loss begins as it is making no return for the food consumed.

The farther from market, the greater the need of condensing the products by feeding the grain and roughness to good stock.

The crucial test of a good cow is the number of pounds of good butterfat given in a year at a low cost of feed.

The most profitable way of marketing much of the raw material of the farm is in the shape of the finished product.

Good land is not the only thing required for the production of good crops. There must be as well, good preparation and good cultivation.

Any part of the farm or any sort of

stock which is not profitable is a tax on all the rest of the farm.

As a rule the farmer who follows diversified farming, keeps as much stock as his farm will carry, makes, saves and utilizes all the manure possible will not need much commercial fertilizer.

Sows left to themselves will in nearly all cases wean their pigs at from ten to twelve weeks old, but as a general rule it is best to wean by separation and especially so when it is intended to heat the sows for two litters a year.

## CATTLE ON THE FARM

Col. B. A. Wilkinson, Elmo, Minn.

At one time it was thought that the fertility of the soil of the Red River Valley was inexhaustible. This was believed by the majority of the people; but there were others who believed there was enough fertility in the soil, so they could get all they wanted out of it, get rich and leave. They were disappointed, just as was the first class.

Then there was a third class, who were called pessimists in those days, who believed that constantly draining the soil would in turn bring a disaster and in their weak way tried to remedy this, and these few people went to work in divers ways to make the land better. Summer fallowing was then heralded away back in the 80's, as the one and only remedy. This worked for a time, but was not satisfactory. No attempt had been made to put back into the soil what had been taken out.

It was about this time when the land was growing stale that the idea of keeping livestock on the farm for the purpose of refreshing the land, was introduced and those who had at first advocated it were actually hooted.

To my mind the keeping of livestock on the farm is a matter of necessity now. The man who keeps just enough horses and cattle and chickens to supply his needs is not farming in a practical manner. He is merely scratching up the ground to get what he can get out of it without regard to the care of the soil.

I began putting livestock on the farm, not with the idea of profits, but as a matter of necessity for the conservation of the soil. I first began with common stock, then added good breeds and it was then I learned that I could keep and raise stock at a good profit.

Some objections are made because

of winter breeding, and the statement was made that this climate is too cold for the development of stock, that the animal would be dwarfed in its growing. But that very cold and rigorous climate is an advantage because we are not afflicted with changeable weather, but have the steady vigorous cold. Animals, like men, are affected by changeable weather.

It has been the experience of breeders that they breed hardier and better cattle in the cold climate of this state than in a warmer climate. Our cattle will compare favorably with any you see anywhere. Minnesota today has raised and has today the greatest bull in the world. We have a climate in the northwest that can produce and has produced the best cattle in the world.

Then comes the question as to the long winter feed. We have the soil and climate that produces the best forage in the world, and the most of it, and can produce the cheapest, so we can afford to feed a little longer than other places where the cost of production of feed is much higher.

But there is a question as to whether we do have to winter feed longer than in some states south of us.

He then showed the advantage of raising and keeping sheep on the farm and said that hundreds of thousands of

**VETERINARY COURSE AT HOME.**  
\$1200 year and upwards can be made taking our Veterinary Course at home during spare time; taught in simplest English; Diploma granted, positions obtained for successful students; cost within reach of all; satisfaction guaranteed; particulars free. Ontario Veterinary Correspondence School, London, Can.

## THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's  
**Caustic Balsam**

IT HAS NO EQUAL

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>For the Human Body</b></p> <p>—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.</p> <p>We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.</p> | <p><b>A Perfectly Safe and Reliable Remedy for</b></p> <p><b>Sore Throat</b><br/><b>Chest Cold</b><br/><b>Backache</b><br/><b>Neuralgia</b><br/><b>Sprains</b><br/><b>Strains</b><br/><b>Lumbago</b><br/><b>Diphtheria</b><br/><b>Sore Lungs</b><br/><b>Rheumatism</b><br/><b>and all Stiff Joints</b></p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**REMOVES THE SORENESS—STRENGTHENS MUSCLES**  
Cornhill, Tex.—“One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills.” OTTO A. BEYER.  
Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.  
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.



bushels of grain are wasted each year on the ground and in the straw and this might easily be fed to the sheep. He showed that experiments proved that from 5 to 9 per cent of the grain was not harvested. He showed that millions of bushels of grain were left on the ground, thrown out of the machines, and this could all be utilized by keeping livestock.

I do not mean that livestock on the farm will take care of themselves. There must be the man behind the cattle. The farmer must begin to realize the business methods that are necessary. If we use science right we can scarcely make a failure. Scientific farming is but knowledge applied. You must make a business of your farming operations, must have a knowledge of your soil, of the kind of cattle you will have on your farm. Apply that knowledge to your methods and you are doing scientific farming.

When you place stock on your farm you must have some idea as to what you want to do with that stock, whether for the market or domestic use or for dairy products; adapt your methods to your ideas and you will make a success.

The man who is the most progressive raises the standard of his stock and becomes a breeder, and there is no better place in the United States for breeding the best of stock than in this northern latitude. The great short-horns come from Scotland, that bleak and cold country, and these cattle have made their reputation wherever they were shown, and the cattle raised in the cold countries bring better prices than those raised in warm countries.

#### RELATION OF LIVESTOCK TO FARM PROFITS

Thomas P. Cooper, director of the better farming movement in the state, was called upon to speak on the subject, "Relation of Livestock to Farm Profits," Mr. Cooper said in part:

"We have long been advised to keep livestock in order to maintain the fertility of the soil. Yet there are soils—there are areas—in which the soil may be maintained in other ways and may be maintained even more cheaply. I am informed that crop rotation, commercial fertilizers and the manure from the working stock have successfully maintained some of the deep rich soils in Russia for 200 years.

"Certain areas of the United States have established rather permanent forms of agriculture without livestock. The farmers of these regions found that commercial fertilizer and crop rotation enabled them to farm without the use of farm manures when livestock production became relatively unprofitable. These, however, are isolated instances. The fertility of

the great majority of the farms today must be maintained thru the feeding of products to livestock and the application of manure to the soil. The class of livestock product is comparatively immaterial from the standpoint of fertility and production from the soil. It can be assumed without discussion that from the fertility standpoint livestock is essential to the profit of the farm.

"The relation of livestock to farm profits is indicated by the facts presented. Averages of a number of farms

over a series of years have been used in obtaining them. They are representative of the returns obtained by farmers—not specialists—at the present time and under conditions that are not of the best."

#### MILK FEVER

I. E. Newsom

This very common disease still seems to baffle a great many farmers, judging from the many inquiries that have recently

#### ST. PAUL UNION STOCKYARDS CO., REPORT FOR MARCH, 1912 Comparison of Receipts and Shipments of Livestock

|                      |        | Receipts  |        |       |        |       |      |
|----------------------|--------|-----------|--------|-------|--------|-------|------|
| Railroads            | Cattle | Calves    | Hogs   | Sheep | Horses | Total | Cars |
| C. R. I. & P.....    | 250    | 90        | 1534   | 8     | 20     |       | 32   |
| C. G. W.....         | 1168   | 524       | 4704   | 1205  | 133    |       | 129  |
| C. M. & St. P.....   | 4168   | 1049      | 14498  | 5292  | 122    |       | 410  |
| M. & St. L.....      | 2793   | 1021      | 14667  | 418   | 22     |       | 302  |
| C., St. P., M. & O.. | 2506   | 910       | 20445  | 1218  | 342    |       | 397  |
| C. B. Q.....         | 279    | 26        | 1053   | 27    |        |       | 26   |
| M. St. P. & S. S. M. | 2576   | 1930      | 5991   | 2013  | 2      |       | 204  |
| Gt. Nor. ....        | 6469   | 3348      | 18983  | 7279  | 37     |       | 573  |
| Nor. Pac.....        | 3459   | 841       | 4483   | 16622 | 77     |       | 273  |
| St. P. B. & T.....   |        |           |        |       |        |       |      |
| Driven in.....       | 785    | 73        | 691    | 958   | 16     |       |      |
| Total.....           | 24453  | 9812      | 87049  | 35040 | 771    |       | 2337 |
| Increase.....        |        |           |        | 10846 | 123    |       |      |
| Decrease.....        | 3039   | 3522      | 4151   |       |        |       | 96   |
| Jan. 1 to date....   | 63394  | 22794     | 323710 | 99768 | 1947   |       | 7332 |
| Increase.....        |        |           | 59848  | 33810 | 853    |       | 671  |
| Decrease.....        | 8603   | 5522      |        |       |        |       |      |
| Average Wts.....     | 821    | 146       | 214    | 88    |        |       |      |
|                      |        | Shipments |        |       |        |       |      |
| C. R. I. & P.....    | 1430   | 2         | 218    |       | 3      |       | 46   |
| C. G. W.....         | 2961   | 125       | 355    | 5380  | 23     |       | 124  |
| C. M. & St. P.....   | 2327   | 173       | 10762  | 6861  | 147    |       | 217  |
| M. & St. L.....      | 342    | 2         |        | 10    | 1      |       | 14   |
| C., St. P., M. & O.. | 4284   | 670       | 9010   | 1757  | 155    |       | 223  |
| C. B. & Q.....       | 1073   |           |        | 5657  | 1      |       | 62   |
| M. St. P. & S. S. M. | 342    | 49        | 440    | 3280  | 73     |       | 40   |
| Gt. Nor. ....        | 1045   | 29        | 33     | 325   | 271    |       | 52   |
| Nor. Pac.....        | 1790   | 48        |        | 595   | 12     |       | 53   |
| St. P. B. & T.....   |        |           |        |       |        |       |      |
| Driven Out.....      | 455    | 382       | 144    |       | 92     |       |      |
| Total.....           | 16049  | 1480      | 20962  | 23865 | 778    |       | 831  |
| Increase.....        |        |           |        | 9054  | 121    |       |      |
| Decrease.....        | 2455   | 4831      | 3307   |       |        |       | 150  |
| Jan. 1 to date....   | 33986  | 3603      | 80946  | 64385 | 1923   |       | 2192 |
| Increase.....        |        |           | 6927   | 25278 | 892    |       |      |
| Decrease.....        | 11496  | 6050      |        |       |        |       | 201  |

## SEED CORN

Our stock was gathered early, is kiln dried and has been thoroughly selected, graded and tested.  
Heavy demand—limited supply, so order early if you want GENUINE NORTH DAKOTA SEED CORN,

## Alfalfa, Clover, Timothy

Don't delay renewing your pastures this year with our seeds which are unexcelled in purity, vitality or productiveness. Our 1912 Catalog is free—send for one.

### FARGO SEED HOUSE

Fargo,

North Dakota



been received at the Colorado Agricultural college. No person whether veterinarian or not should fail to diagnose this malady when it is in typical form. Usually the best cow in the herd is affected; in any event she is sure to be a heavy milker. She has been fresh from twelve hours to a week. She is found down, unable to rise, with the head turned into the flank. She appears to be almost lifeless, and, indeed, the condition seems to be similar to fainting in man.

Whenever the above symptoms are present, with the history, then you can say milk fever is the trouble in nearly all cases.

Now, the name is peculiar, for there is no milk, neither is there any fever; but some one called it that to start with, and the name clings. Parturient paresis is certainly a better term, because it is a paralysis associated with parturition.

We will suppose the cow is found in this condition. What are you going to do about it? The most important things are what not to do. Do not give any feed or medicine by the mouth and do not allow anyone else to do so. This is imperative because whatever is poured into the mouth is likely to go into the lungs and even tho the cow recovers, she will die later of pneumonia. Do not destroy her, thinking she will surely die anyway. I know she has that appearance, but the fact remains that about 999 out of every thousand can be cured.

Get a veterinarian, if one can be had, because here is a case above all others where a small fee to a competent veterinarian will return itself many fold.

If it is impossible to secure a veterinarian, then give the air treatment, which has been described in all farm papers for several years, and don't give anything else. Remember, however, that even as simple a thing as the air treatment seems to be, it has not given the results that have been claimed for it, in incompetent hands. And this for reasons which are easily explained. First, lack of proper equipment with which to give it; and second, because of lack of absolute cleanliness on the part of the operator. By absolute cleanliness I mean that every piece of apparatus used, and all the air injected, must be rendered free from germs. Otherwise mammitis results and this is nearly as bad as the original malady.

#### SHELTER FOR SWINE

E. J. Thompson Division of Animal Husbandry, Agricultural College

Statistics of the past ten years show us that the number of hogs in the United States have not kept pace with the increase of population and that there is now

not more than one-half a hog for each individual.

Feeding hogs can be done more easily than with most other kinds of stock and there does not appear to be any reason for this reduction in the production of hogs.

Our hog of today is very much improved over the wild hog of some years ago, and this is brought about by selection, feed and shelter.

Location and building should enter largely into the shelter of the hog to get the best results. The building should be well lighted so that the rays of the sun could enter it. Swine houses are constructed in two ways, one with a general house and another system is the cot system in which one sow and her litter can live. The larger house is more in use in North Dakota.

To be serviceable a central hog house should be arranged with feeding bins, water, scales and office. The houses should be warm and comfortable in the winter and this can be done by using two or three thicknesses of paper in the construction. The floors should be of concrete.

For the summer any shade may be used, but there must be plenty of it. The concrete wallow with some of the coal tar preparations answers the pur-

pose very well, but they must be kept clean and fresh.

So, if we bear in mind the fact that hogs will do best if kept dry, in clean, dry quarters, out of the wind and drafts, with plenty of exercise, we shall come near solving the problem of successful housing of swine.

#### LIVESTOCK IN NORTH DAKOTA

According to the Government Reports, the number and value of Livestock in North Dakota on January 1, 1912, was as follows:



Purebred Registered  
**HOLSTEIN CATTLE**  
The Greatest Dairy Breed  
Send for FREE Illustrated Book  
Holstein-Friesian Assn., Box 135 Brattleboro, Vt

#### A RARE CHANCE

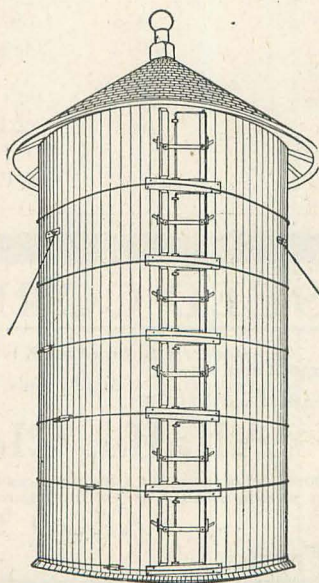
I have a house at Ellendale, N. D. which I wish to sell or trade for land. It is within two blocks of the Normal-Industrial School; six rooms; two stories; two bed-rooms upstairs; large living and dining room; fireplace in dining room; good large basement; wired for electric light; heated by hot water with a steel boiler of the locomotive type; bath room and plumbing all complete; practically new; and beyond doubt the best location in the town. Southeast corner front; cement sidewalks on either side; lot 125 ft. front; buckthorn hedge; garden; driveway with trees; young fruit, etc. An ideal location for a man who wants to educate his children. Under ordinary conditions I would not want to take much less than \$5000 for it, but I will sell it now at a bargain or trade it for a first-class quarter of land. Only A1 land considered.

Address **FIRST NATIONAL BANK Ellendale**

## Farmers--Silo Your Fodder

The untold advantages of the silo and the possibilities of its development and use, are becoming known to increasing thousands each year.

**Now is the Time to Start. Get Started Right and RIGHT NOW**



FIRST—

Get a Good Silo and Get It Early.

SECOND—Erect and Fill It.

THIRD—

Wonder How You Ever Got Along without It.

### THE WEYERHAEUSER SILO

Is made on the Pacific Coast, the home of Fir Lumber

**Strong Permanent Swinging Door, Steel Hoops and Anchors**

**COMPLETE WITH ROOF IN ONE SHIPMENT**

**Call on Your Local Lumber Dealer. He is Our Agent.**

**He Will Give You Illustrated Book and Prices.**

**Our silo is protected by patent. None genuine without License tag.**

Manufactured Only By

**Weyerhaeuser Lumber Co.**

EVERETT

WASHINGTON



|                                 | Number  | Value        |
|---------------------------------|---------|--------------|
| Horses                          | 691,000 | \$78,774,000 |
| Mules                           | 8,000   | 1,016,000    |
| Milch Cows                      | 272,000 | 10,064,000   |
| Cattle other than<br>Milch Cows | 446,000 | 9,366,000    |
| Sheep                           | 287,000 | 1,033,000    |
| Swine                           | 359,000 | 3,770,000    |

### ROTATION OF CROPS

Prof. J. H. Shepperd

Corn and potato crops well cultivated save moisture, destroy weeds, rid the land of wheat and flax insects and diseases, incorporate stable manure when applied and make the land produce good flax, wheat and barley crops when they follow.

Clover, alfalfa and field peas are crops which gather nitrogen from the air and will, if they are fed to livestock, add materially to the fertility of the soil. Grass

crops tend to keep the land from blowing. Growing these crops make the keeping of livestock a necessity. The men who have grown livestock are the most successful and thrifty.

The frequency and order of these crops must be gauged for each individual farm according to its needs and most of them require two systems on two sets of fields.

Are you boosting the North Dakota Farmer? One year, 50 cents; three years, \$1.00.

## W. F. JACOBS

Pedigreed Livestock  
Farm Sales and  
Real Estate Auctioneer

Write for Dates. Terms Reasonable

LISBON, - N. DAK

### ST. PAUL UNION STOCKYARDS CO. REPORT FOR MARCH, 1912

#### Comparison of the Origin and Disposition of Livestock

##### Origin of Livestock Received

| States                  | Cattle | Calves | Hogs  | Sheep | Horses | Total Cars |
|-------------------------|--------|--------|-------|-------|--------|------------|
| Minnesota.....          | 19147  | 8727   | 73606 | 9597  | 87     | 1793       |
| Wisconsin.....          | 1215   | 685    | 5026  | 896   | 9      | 129        |
| Iowa.....               | 13     | 10     | 210   | ..... | 274    | 19         |
| Far South.....          | .....  | .....  | ..... | ..... | 155    | 8          |
| So. Dakota.....         | 470    | 113    | 2991  | 551   | 173    | 66         |
| No. Dakota.....         | 2325   | 255    | 5132  | 2291  | 49     | 171        |
| Montana.....            | 1128   | 9      | 84    | 21705 | 24     | 147        |
| Far West.....           | .....  | .....  | ..... | ..... | .....  | .....      |
| Manitoba & N. W. T..... | .....  | .....  | ..... | ..... | .....  | .....      |
| Far East.....           | .....  | .....  | ..... | ..... | .....  | .....      |
| Returned.....           | 155    | 13     | ..... | ..... | .....  | 4          |
| Total.....              | 24453  | 9812   | 87049 | 35040 | 771    | 2337       |

##### Disposition of Livestock

|                         |       |       |       |       |       |       |
|-------------------------|-------|-------|-------|-------|-------|-------|
| S. St. Paul P'k'rs...   | 10713 | 6477  | 66028 | 14183 | ..... | ..... |
| City & State Butch.     | 764   | 409   | 1450  | 825   | ..... | 41    |
| Outside Packers...      | 112   | 560   | 19337 | 1244  | ..... | 177   |
| Minnesota.....          | 2769  | 285   | ..... | 831   | 290   | 111   |
| Wisconsin.....          | 1101  | 71    | 91    | ..... | 199   | 51    |
| Iowa.....               | 4114  | 12    | ..... | ..... | 23    | 117   |
| Nebraska.....           | 33    | ..... | ..... | ..... | ..... | 1     |
| Kansas & Missouri       | 1167  | ..... | ..... | ..... | ..... | 36    |
| So. Dakota.....         | 905   | 74    | ..... | ..... | ..... | 23    |
| No. Dakota.....         | 378   | ..... | 104   | 17    | 14    | 14    |
| No. Dakota.....         | 378   | 1     | ..... | 104   | 17    | 14    |
| Montana & West..        | 1223  | 26    | ..... | ..... | 1     | 28    |
| Far South.....          | 368   | ..... | ..... | ..... | 24    | 8     |
| Manitoba & N. W. T..... | ..... | ..... | ..... | 531   | 134   | 10    |
| Mich. & E. Can...       | ..... | ..... | ..... | ..... | ..... | ..... |
| Chicago.....            | 1457  | 1     | 84    | 20330 | ..... | 156   |
| Ills (ex Chicago) ..    | 1509  | 28    | ..... | ..... | 15    | 51    |
| Eastern Points....      | 22    | ..... | ..... | ..... | 75    | 4     |
| Returned.....           | 127   | 13    | ..... | ..... | ..... | 3     |
| Totals.....             | 16049 | 1480  | 20962 | 23865 | 778   | 831   |

## CLASSIFIED ADS.

### One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

### LIVE STOCK

#### HORSES

##### FOR SALE

Percheron, Belgian and Shire horses  
J. W. & F. T. PETERSON, Litchfield, Minn

#### CATTLE

North Branch Stock Farm. High class Short-horns. Herd, bull, Supreme Judge 177722—pure Scotch, John Donnelly, Grafton, N. D.

##### FOR SALE

#### GALLOWAY CATTLE

J. W. & F. T. PETERSON, Litchfield, Minn

#### SWINE

POLAND CHINA PIGS, also Shropshire sheep. Seed grain. GEO. N. SMITH, Amenla, N. D.

### EGGS AND POULTRY

EGGS FOR HATCHING. White Plymouth Rocks (Fishels Strain) \$5 per 15. I have the Best in the Northwest. No exceptions. Indian Runner Ducks from Choice High Bred Stock, \$2.50 per 11. Canadian Wild Geese, \$1 per egg.

C. H. MCGEE

Oriska, N. Dak.

### MISCELLANEOUS

Envilla Stock Farm, Cogswell N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolfand Fox Hounds, Pure Bred Poultry, Pet Stock. Write them.

#### THE MOUSE RIVER LAND AND LOAN COMPANY AND THE MOHALL STATE BANK

At Mohall, Renville County, North Dakota, have a large list of farm lands for sale, and terms and prices are better than in any other part of North Dakota. They would be glad to have you write them for prices and terms. Our slogan is, "Own your own home in the Mouse River Loop."

FOR SALE: Registered Jerseys. Bull calves and one mature Bull at reasonable prices. W. G. Weeks, Backoo, N. Dak.

#### RED-POLLED AND GALLOWAYS

##### Shropshire Bucks

J. S. BIXBY, - - LISBON, N. D.

WANTED—Young Men to take the Railway Mail Clerk examination called for the Dakotas; salary \$900, work half time, common school education required. Passing means appointment. American Institute, Dept.—68-Dayton, Ohio.

FOR SALE. Creamery in first class condition at a bargain at Crystal, N. D. For further information write to J. S. GESTSON, Sec. CRYSTAL, N. D.

#### FARMS WANTED

TO FARM OWNERS: Our plan puts you into communication with buyers at low cost; write for particulars.

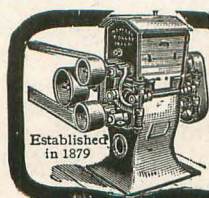
#### Co-operative Advertising Company

Fergus Falls, Minn.

FOR SALE AT A BARGAIN. As I am hard up, must sell my 1/4 section of Kidder Co. land, worth \$3,000. \$2,000 will buy it before March 15, 1912. One-half cash, balance to suit you. Owner, Lock Box 2, - Pettibone, N. D.

A BARGAIN FARM. 200 acres, 9 miles from Eldon Miller Co., Mo., a Division point in Rock Island, R. R. 125 acres in cultivation; 100 in bottom, no buildings; good orchard, fine water, well fenced; 30 acres meadow, \$20 per acre. Other good farms for sale. Goodrich Realty Co., Eldon, Mo.

FREE INFORMATION about British Columbia Lands for settlers. Mild climate on the Pacific Coast. Pre-emption laws very favorable. Write for copy of law and plan of securing Quarter Section. Address Land Information Bureau, 203 Carter-Cotton Building, Vancouver, B. C.



## ROLLER FEED MILLS

The only scientific and up-to-date method of grinding feed. Burr and stone mills have had their day. At present cost of land and labor you can't afford to feed whole grain—one-half of it properly ground by our roller process has equal value. Our mills have great capacity—require little power—last a life-time. Built in 13 sizes to suit any power. Write for catalog D 6

R. R. HOWELL & CO., Minneapolis, Minn.



## Poultry Department

Geo. Hausmann, Hillsboro, N. D.

### SELECTING A BREED

Geo. Hausmann, Hillsboro, N. D.

The question so often asked is, "Which is the best breed," and if I can be of help to some one in giving a satisfactory answer, I shall be pleased to do so. In the over hundred breeds of fowls, it will seem mighty hard for some of the beginners to choose. And great care should be taken in choosing for your success depends upon it.

To be real candid, there is no best breed. There are breeds that are superior to others for certain purposes, and again others adapted to certain climates. There is not a standard variety today that is not profitable, or at least, would be profitable in the hand of a good poultryman. There is almost just as much in **feed** as in **breed**. The little hen is prompt to respond favorably to proper care and treatment, and she is just as prompt to respond unfavorably if these are withheld.

The proper selection of a breed depends upon whether the birds are wanted for egg production, or meat, or both, or for fancy breeding. It is an indisputable fact that some breeds are better layers than others. That is, they will produce more eggs in a year. The Leghorns for instance have a well-earned reputation, as prolific layers and while there may be some breed that equal them or even excell them for a short period, the Leghorn generally comes out ahead at the end of the year. This is due to the fact that they are no sitters and instead of spending three to four weeks each year incubating eggs, and six to eight weeks longer brooding chicks, she lays right along, and gets a good lead on the broody sisters.

This Leghorn example is enough. Choose your breed for whichever you want. For anyone to come along and tell you that any one breed is the best, is rot. Not very long ago I heard the remark made by a person that he had B. P. Rock hen, that could beat any Leghorn there ever was. Now this may be true, and may not. But still the fact remains that the breed as a whole, would not. Therefore when you read of some individual hen, with a record, do not take it as a breed.

Let me classify the breeds for you. If you want heavy fowls, choose the Asiatics. I would, however, not recommend Chocins—they are good layers and make good mothers. For all around purposes fowls either the American or English breeds. **These** could well be termed the farmers' **fowls**. For laying purposes, the Mediter anneans.

The best breed is the breed that you like best. For with this breed you can get results. Get any of the old standard breeds that you **care for** and you will have success.

### POULTRY BUILDINGS FOR A HEALTHY FLOCK

J. Gaylord Blair

#### How and Where to Locate the Buildings

All poultry buildings should face the south and should be built on well drained land. They should be dry, roomy and well ventilated. The most satisfactory plan for a poultry house is the fresh-air one. In such houses the air is always pure and you will find that birds will do much better in such houses. The egg yield will be larger, the vitality of the birds will be higher, the eggs more fertile and will hatch stronger and better chicks. You need not have high priced land for your plant; if it is dry, well drained land it will be all right and will be just as good as higher priced land. If possible have it lay or slope toward the south, south-east or south-west.

Do not have drafts over the birds or you will have trouble. Have three sides air tight and the front side open for ventilation. And do not close unless it is very stormy. A bird can stand much more cold if it has an abundance of pure fresh air to breathe than it can if it is closed up in a tight house without the pure fresh air. Low roofed houses are much warmer and also cheaper to build.

#### Sunshine a Good Preventative for Disease

In constructing the poultry house try to plan it so as to have the sun penetrate to all parts of it. Sunlight is one of the very best preventatives for disease. If there was no sunlight how long would the different animals and vegetables live in this world? No poultry house should be built so the sun could not shine in it most of the day. Sunshine and fresh air is a cheap and sure disinfectant. Have both the brooder and breeding houses arranged so that the sun can shine in at all times of the day. Many small chicks die annually from the lack of sunshine in the brooder and brooder house. The brooder should be sunned and aired daily if you expect to raise good healthy chicks. Have the house arranged so that the little fellows can have a sun bath daily. Also provide shade as well; and remember if you go to extremes with either you will not be successful with your attempt. Sunshine is very important to health.

### The "Dust" or Earth Bath

The dust bath is the natural method of keeping body and feathers clean and also keeping them free from vermin. It is very important and should be looked after just the same as the other small points that help to make the poultry business successful. The best place for the dust bath is to locate it in the corner of the breeding pen and use only fresh earth, for this is much better than dust and the birds would rather have it. By dusting in this earth bath, the birds will keep their feathers and skin clean and in a healthy sanitary condition and by adding a little insect powder, they will also free themselves from all vermin. This dust bath has been recommended for years as a sure remedy for vermin on poultry and if this is supplied the birds will do the rest. Always keep the earth a little moist. It should be changed at least every two weeks.

### RAISING POULTRY ON THE FARM

The general-purpose breeds of poultry, such as the Plymouth Rocks, Wyandottes, Rhode Island Reds, and Orpingtons, should be kept on the farm, rather than small-egg breeds or small mongrel stock. It should also be remembered that the dark-plumaged varieties do not, as a rule, look as well when dressed as poultry of other colors.

Usually, more interest is taken with a flock of fowls that are of the same breed and color, and it is an established fact that such a flock produces a more uniform product, which invariably secures to the owner higher prices than can be derived from the product of a mongrel flock.

As soon as the hatching season is over all male birds should be marketed, they having no influence whatever on the number of eggs laid, and eggs produced by flocks composed of females only keep much better than eggs from hens that are allowed to run with males.

As soon as the cockerels weigh three-quarters of a pound they should be penned

## PREVENTION

### White Diarrhoea Can be Prevented and Cured

After years of experiments we have discovered a sure cure—or money back.

**25c. Package. 6 Packages, \$1.00**

Prevention is not a cure-all. It only prevents and cures White Diarrhoea in baby chicks and Cholera in older fowls. One ounce of prevention is worth tons of cure. In tablet form.

**PREVENTION CO.**

**Box 1127**

**Atlantic City, N. J.**

**Agents Wanted**



for 10 or 12 days and fed all they will eat of corn chop or a wet mash composed of two parts corn meal, one part bran, and one part low-grade flour. If this mixture can be dampened with skim milk, it will add much to its fattening and bleaching qualities. Birds that are being fattened should be fed in troughs rather than in litter, as exercise at this time is not conducive to rapid gains in weight. The birds should be kept as quiet as possible.

### MORE THOROUGHbred POULTRY FOR NORTH DAKOTA

Mrs. D. W. Swanson, New Rockford

I am enthusiastic over purebred poultry, and think there should be a greater interest taken in this important industry, especially on the part of the farmers, in North Dakota.

Coming here a year ago from Illinois where almost every farmer's wife has a flock of thoroughbred birds, we notice the difference, when calling on many homes, and seeing their little forsaken flocks of mongrels, weighing from one to two pounds each, and frightened nearly to death at the sight of a woman in the hennery.

I am a farmer's wife, and have always taken great interest in my chickens. As a breeder of Single Comb Buff Orpingtons have a flock of 150 birds, who depend entirely on my care.

Not a day this winter, even when it was 48 degrees below zero, was too cold for me to spend an hour or two with my chickens, feeding and watering them, and cleaning out the scratching room, and carrying fresh straw for their litter.

As you all know, the Orpingtons being a great winter laying strain, I was always well paid for my work with a full egg basket all winter thru.

I think the greatest advantage in raising purebred poultry in this country is the good prices we can sell our eggs and stock for.

All you have to do is to advertise, in some good paper, like the North Dakota Farmer, and then the orders will be pouring in on you from all directions.

We certainly can't expect to get top prices here for marketing eggs and poultry

in our home towns, as they are all consumed by our local people, being too far out to make it profitable to ship to larger cities where market is higher.

In this country where most all farms are of such large size, little or no care and time, can be gotten from our men folks for poultry raising. I think therefore, what can be done in that line, depends more on we women. I have talked with some women who never set a hen, are too afraid old biddy is going to pick their dainty hands. Some say, "I have not been out to the hen house since last fall, don't know what it looks like out there. We never get any eggs in winter time," etc.

Let me tell you it is no disgrace for a woman to conduct a poultry business, but rather a great honor, to do so. If you get in the business right once, you will enjoy spending an hour or two each day among your thoroughbred birds. And you will feel proud of your selfearned money when you are in need of any. I always felt proud last year in telling my friends that I built our 18x36 henhouse here last spring with my 1910 poultry money.

Besides, I bought all my own clothes and several different things to furnish our new home in North Dakota. These were the results from my S. C. Buff Orpingtons.

Hoping in the future we will see more pure bred poultry and less mongrels on the farms in North Dakota.

## EGGS

White Plymouth Rock  
15—\$1.50 100—\$5.00

Barred Plymouth Rock  
15—\$1.50 100—\$5.00

White Holland Turkeys  
10 Eggs—\$1.50

ANGUS CATTLE OXFORD DOWN SHEEP

Willobank Farm  
Eastgate Bros. Larimore, N. D.

Are you boosting the North Dakota Farmer? One year, 50 cents; three years, \$1.00.

S. C. Buff Orpingtons, S. C. Black Orpingtons,  
M. Pekin Ducks and Indian Runner Ducks.  
Maude I. Matthews - Larimore, N. D.

### Eggs for Hatching

Orpingtons.....White.....Buff  
Rock.....White.....Buff  
Wyandottes.....White.....Buff  
Wyandottes.....Silver.....Golden  
Also a few cockerels.

Write your wants. Book order early.  
O. A. Barton, Valley City, N. D.

### R C R I REDS

Eggs \$2.00 and \$1.00 for 15. Orders booked now.  
Some stock for sale, trios at \$5.00, if taken at once.  
The best egg laying strain in Northwest Write to  
K. H. Thome, - Lisbon, N. D.

EGGS FOR HATCHING from pure bred Buff Orpingtons. \$1.50 for 15; \$2.50 for 30.  
F. M. PEZALLA, - CAYUGA, N. D.

### BARRED ROCK

Choice Stock and Fair Treatment.

ROBERT B. REED

Box 2. Amenia, N. D.

BUFF WYANDOTTE EGGS for hatching. Fowls for sale. Also twelve breeds of Fancy Pigeons. M. B. NOBLE. Hillsboro, N. Dak.

### BARRED ROCKS

Bred to Lay and Win

Won all first at Fargo, N. D. State Show, 1906, 1907, 1908, 1909 and 1911. Stock at reasonable prices

PETERSON BROS. Harwood, N. D.

### HAUSMANN POULTRY FARM

Breeders of W. Wyandottes and S. C. W. Leghorns  
Hillsboro, - North Dakota

### E. A. TOW

Breeder of

White Wyandotte Chickens, Toulouse Geese, Bourbon Red Turkeys, Pearl and White Guineas. Eggs in season. Write for prices. Lisbon, N. D.

### S. C. W. LEGHORNS

Prize winners' stock for sale. Eggs a specialty. GEO. A. FOWLER,  
Box 486, Casselton, N. D.

### SILVER-LACED WYANDOTTES

Thoroughbred, Wide Open-laced, Big Utility Birds. Bred for Business. Eggs for Hatching: 15, \$1.50; 30, \$2.75; 50, \$4.00; 100, \$7.00. Cockerels, \$2.00, each.

Anthony Elm,  
Lansford, N. Dak.

WHITE WYANDOTTES. If you want eggs from an early maturing, heavy laying, prize winning strain of White Wyandottes, write me. I am developing a special laying strain by use of the trap nest. Prices reasonable. Write  
M. C. JAMES, Valley City, N. D.

### MAKE YOUR HENS LAY MORE EGGS

I have a method that will make your hens lay every day; it never fails. Write for it. 2c stamp.  
MRS. B. F. WILCOXON,  
Hillsdale, Wyo., Dept. 8

WHITE AND BUFF WYANDOTTES that always win. Choice stock for sale. EGGS for hatching from pens of well-selected stock, sure to produce winners. Prices reasonable. Satisfaction absolutely guaranteed. Write me your wants.  
L. O. CUMMINS, Casselton, North Dakota

FOR SALE. M. B. Turkey Toms, raised from our Diploma Stock, \$5.00 and up; also Eggs from 26 varieties poultry. Catalog free.  
L. GULDEN, Osakis, Minn.

### Rose Comb Black Minorcas

Eggs for sale, \$2 for 15 eggs.  
C. WYSH, CASSELTON, N. D.

### EGGS FOR HATCHING

Fresh laid eggs from Pure Bred White Plymouth Rocks of the big utility kind, \$1.50 for 15. \$8.00 per 100. Pearl Guineas, \$2.00 for 15.  
L. G. Gemmil, Edinburg, N. D.

1900

C. C. DIBLEY & SON

1912

BREED THE BEST

Barred Plymouth Rocks  
White Plymouth Rocks

Light Brahmas  
Buff Wyandottes

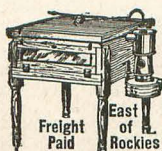
Single Comb Rhode Islands Red  
Columbian Wyandottes

Look up our winning in Poultry Herald, February and March numbers.

Stock and Eggs for Sale

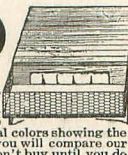
WOLVERTON,

MINNESOTA, R. R. 1



## 125 Egg Incubator and Brooder Both For \$10

Why pay more than our price? If ordered together we send both machines for only \$10.00, and pay freight charges East of Rockies. Hot water, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Incubator and Brooder shipped complete with thermometers, lamps, egg-festlers—ready to use when you get them. Five year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others offered at anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Send for FREE catalog today, or send in your order and save time. Money back if not satisfied. Write us today. Don't delay. (12) WISCONSIN INCUBATOR CO., Box 68, Racine, Wis.





## HOME DRESSMAKING



3984

3856

**No. 3984—Ladies' Kimono.** Having sleeves combined with body and perforated for sleeve caps. May be made with or without rolling collar. Sizes 32, 36 and 40 inches bust measure. Size 36 requires five and five-eighths yards 36 inch material. Price, 15 cents.

**No. 3856—Ladies' Kimono.** Having two styles of collar and perforated for shorter length. Sizes 32, 36, 40 and 44 inches bust measure. Size 36 requires 7 yards 27 inch material for long kimono three and three-fourths yards same width for short kimono. Price, 15 cents.

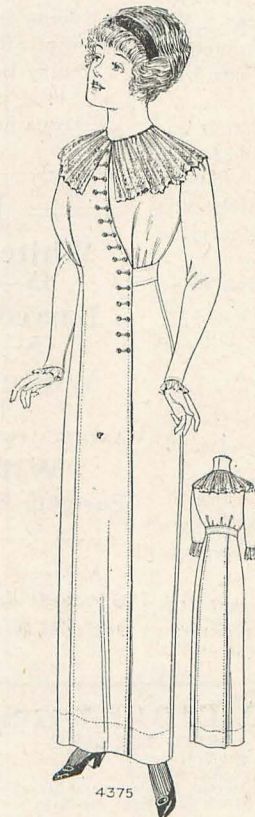
**No. 4372—Ladies' Costume.** Without lining.

Having one-piece sleeves with turn-back cuffs large collar with back in either of two outlines, high waistline and attached three-piece skirt having front gore lengthened by a two-piece flounce. Width around lower edge about one and seven-eighths yard. Sizes 32, 34, 36, 38, 40, 42 and 44 bust. As illustrated size 36 requires 4 yards 44-inch material, one and five-eighths yard 36-inch dark material, seven-eighths yard 27-inch striped material and three-eighths yard 18-inch all-over. Price 15 cents.

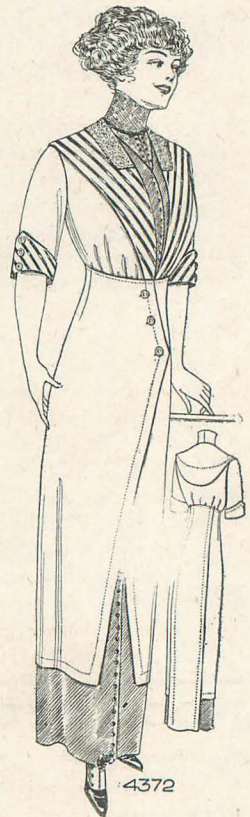
**No. 4375—Ladies' Costume.** Without lining. Having skirt and waist in one. Full-length two-



4359



4375



4372

seam sleeves or one-piece short sleeves. Width around lower edge about two and one-fourth yards. Sizes 32, 34, 36, 38, 40, 42 and 44 bust. Size 36 requires four and one-half yards 44-inch material.

**No. 4359—Ladies' Jacket.** Having notched collar and two-seam sleeves. Sizes 32, 34, 36, 38, 40, 42 and 44 bust. Size 36 requires 2 yards 54-inch material. Price, 15 cents.

**No. 4383—Ladies' Jacket.** Having front and collar in either of two outlines. Two-seam sleeves. Sizes 32, 34, 36, 38, 40, 42, 44 and 46 bust. Size 36 requires two and three-eighths yards 54-inch material. Price, 15 cents.



# Home Department

## SANITATION AT PANAMA

Everyone is interested in the rapidly approaching completion of the Panama Canal. Much has been said about the control of disease on the Canal Zone. The leading article in the current number of "The Journal of the American Medical Association" on "Sanitation at Panama," by Col. W. C. Gorgas, Chief Sanitary Officer of the Canal Zone, is therefore especially interesting. After describing the topography of the canal, Col. Gorgas says, in part:

The health conditions at Panama when the United States took charge, in 1904, were very bad. For four hundred years this isthmus had been considered the most unhealthy spot in the world and the mortality records will sustain this opinion. The official pilot chart, in 1903, says:

"The Panama Canal District is one of the hottest, wettest and most feverish regions in existence. Intermittent and malignant fevers are prevalent, and there is an epidemic of yellow fever at times. The death-rate under normal conditions is large."

From the best information which I can get, and which I consider accurate, I believe the French lost 22,189 laborers by death from 1881 to 1889. This would give a rate of something over 240 per thousand per year. I think it due to the French to say that we could not have done a bit better than they, if we had known no more of the cause of these tropical diseases than they did.

The great discoveries in tropical medicine made during the time between the coming of the French to the Isthmus and the coming of ourselves, however, namely that certain species of mosquito transmit both yellow fever and malarial fevers, have enabled us to protect ourselves against these and other tropical diseases.

The French, with an average force of not more than 10,200 men, lost in nine years 22,189 men; we, with an average force of 33,000 men, in nearly the same length of time have lost less than 4,000. The death-rate among the French employees was something more than 240 per thousand; our maximum rate in the early days was 40 per thousand; our rate at present is 7.50 per thousand. Malaria, from a maximum of 821 per thousand taken sick—i. e., that out of every thousand of our employees in the course of the year, we have 821 taken sick with malaria—we have reduced at present to 187 per thousand. But most important of all, yellow fever has been entirely banished.

We have not had a single case since May, 1906, now a lapse of almost six years. The general death-rate has been reduced from a maximum of 49.94 per thousand to a rate, for the year 1910, of 21.18 per thousand. Such a rate compares favorably with that of many parts of the United States.

One of the highest railroad officials in the United States has recently stated that the sanitary expenditures on the Isthmus would have been 5 per cent of the total cost when the canal had been finished; that he thought that the sanitary results accomplished had been worth many times the amount spent, and that he believed that these same measures would, as a matter of economy, be adopted in all future works of this kind. How much more emphatic might he have been if he had known that, instead of costing 5 per cent of the total appropriation, they had actually cost less than 1 per cent of the total appropriation for all purposes.

While the great work in tropical sanitation of Laveran, Ross, Reed, Finlay, Carter and many others, have enabled the sanitary department on the Isthmus to take a vital part in the work of building the canal, this is not the greatest good that we hope, and expect, will flow from this conspicuous object-lesson. We hope that our success at Panama will induce other tropical countries to try the same measures; and that thereby gradually all the tropics will be redeemed and made a suitable habitation for the white man.

I therefore wish to say most emphatically that considering the results and difficulties surrounding the subject, the sanitation of Panama has not been costly. When the canal shall have been finished it can be shown that sanitation cost about \$365,000 per year. For a population of 150,000 this means an expenditure of about 1 cent per day for each individual, and this sum is well within the means of any tropical country.

## WHY IS IT SO?

E. H. Parkinson, Chicago, Ill.

Why the per capita increase in the consumption of liquor when there has been a corresponding increase in the area of dry territory? The foregoing inquiry we recently heard discussed in two prohibition rallies in the city of Chicago. It is evident that the aggressive spirit of the age wants to know "the why and the wherefore of certain existing conditions and draw safe conclusions. "Figures do not lie"

is an old saying and amid the vague generalizations so rampant it is restful to read short sentences containing figures. In the last twenty years the annual consumption of liquor per capita has gone from sixteen to twenty-two gallons. As indicated before there has been a corresponding increase in dry territory. Counties and states have voted dry within that time—enough of them at least have done so that we may now claim that one-third of our territory is on the dry list. The figures are significant. It is one-third increase both ways. But how can we account for such a serious and anomalous situation? And what is the remedy? We would notice four palpable reasons and a practical remedy.

1st. The ignoring of the expressed wish of the people in prohibition districts and states by the federal government thru interstate commerce.

2nd. The poor execution of prohibitory law by parties in power unfriendly to that principle.

3rd. The filling of liquor orders by department stores and wholesale liquor houses.

4th. The increase of the number of saloons in the wet districts and the increased volume of business with the old saloons.

The remedy is suggested by the reasons given above. Nation-wide Prohibition thru an alliance of the best voters in the political party pledged to that principle.

## UNCLE SAM'S COOK BOOK ON CHEESE

Secretary Wilson has just added another bulletin to the list of nutrition publications, or so-called "cook books" issued by the Department and widely distributed. The latest one is on "Cheese and its Economical Uses in the Diet" (Farmers' Bulletin No. 487). Since cheese is one of the important agricultural products of the United States and a food stuff used in larger or smaller quantities in nearly every American home, Secretary Wilson caused a study to be made and has published the results of the relative nutritive value of cheese and the ways in which it may be prepared for the table. Altho cheese is so greatly liked, there has been a wide spread belief that it is not easily digested and that it is the cause of physiological disturbances. Neither of these popular beliefs is substantiated by the results of the extended series of digestion experiments undertaken and just completed by the Department. Indeed, cheese was found to be very thoroly digested and as easy of digestion as a comparable amount of meat. Supplementing the experiments as to the nutritive value of cheese, many tests have been made in preparing cheese for the table, the purpose being to suggest dishes and combinations of such a character that cheese might re-



place other nitrogenous material and fat when desirable. The bulletin discusses cheese making, enumerates the more common kinds of cheese used in American homes, gives a few sample bills of fare in which cheese dishes are substituted for meat, tells how to make homemade cheeses, and gives 41 receipts for cheese dishes and cheese sauces, which are certain to prove very attractive to American housewives.

Meat is a wholesome, staple food which we all like, yet most housekeepers at one time or another are interested to know about foods which will take the place of meat. Cheese naturally suggests itself for such uses since it resembles meat in food value and is a savory food. Experiment and experience have shown that it can be thus used and that the daily fare may meet all demands as regards the nourishment it supplies and at the same time be economical. This matter is taken up in the bulletin and suggestions made which should help the housewife in planning her meals.

The bulletin may be obtained upon application to the Secretary of Agriculture.

#### MISS HOOVER'S LECTURE

Miss Jessie Hoover of A. C. Faculty  
Lectured at Y. M. C. A. Auditorium  
Saturday Night

The lecture of Miss Jessie Hoover of the A. C. faculty on The Home As a Business Institution, was one of the most practical as well as interesting talks that has ever been given here this winter.

Miss Hoover showed in her lecture the need of systematic training for home life. She called attention to the number of divorces in the United States in comparison to that in other countries and blamed the conditions of the home for this. She said in 1905 there were 68,000 divorces in the United States and in other countries the combined total was only 40,000, making the ratio one divorce to every twelve marriages in America and one to every thirty in France.

The speaker prophesied in this regard that by the time 1950 rolls around the ratio will have reached one divorce to every four marriages in this country should conditions continue at the pace they are going. Attention was also called to the changed condition in woman's realm and of the need of the housewife being trained in the values of consumption as well as the husband.

#### ABOUT COLORING BUTTER

Feeding after milking does not affect the milk or butter. June coloring without a silo is hard to keep in winter butter.

One can retain a fair amount, however, by never letting the cream get too hot.

The market demands yellow butter, and by using a pure vegetable coloring which can be found on the market, you can obtain the proper color. The amount of coloring to use is hard to state, not knowing what breed of cows you keep. For Jersey cream start with three or four drops to a gallon of cream; if still too light, the next churning add another drop or two. Remember to add coloring to cream, not butter, for it is impossible to work it evenly into butter.—March Farmer's Wife.

#### THE GROWING OF TREES

C. B. Waldron

To those that are interested in the matter there is so much pleasure growing trees and shrubs,—in planting them out and taking care of them that it may be considered almost a privilege to live in a treeless country, for then one has some stimulus for growing them. Be that as it may, every husbandman should plant out a number of trees this coming spring. One of the nice things of many places east of the Missouri river is the number of groves that are now 15 and 20 years old. Very few of these are found west of the river. The success of the cottonwood groves about 15 miles north of Dickinson is certainly a guarantee that they will succeed west of the river if they are given proper attention.

#### Practical Value of Trees

It is not only a pleasure to have trees out upon the farm, but they have a prac-

tical value also. A grove of trees upon the south side of the farm will tend to keep off the hot winds. If every quarter section in the state had a half mile wind break along the south side of every quarter, the effect upon the wind movement and upon the dryness of the wind would probably be considerable, and the injurious effects of such winds would be considerably lessened. The planting of trees on the north and west sides of the farm or any place in the farm banks up the snow and thus helps in wetting the land. Nearly always one notices the effect of a previous snow bank upon the crop and it is very certain that the more snow banks a farmer acquired during the winter the greater the crop growth the following season. It is important to prevent, by every possible means, the running away of water into ravines and gullies. The water should be forced to enter the ground where it will be of value to the crop. The growing of trees and shrubs to

**Make Your Own Gas**

The Detroit Combination Gas Machine provides the Home with a Satisfactory Gas Supply.

Gas to Light with.  
Gas to Cook with.  
Gas to Heat Water for the bath, laundry and other uses common to city coal gas, at no greater cost.

On the market over forty years. More than 15,000 in daily use. Our catalog will interest you. Write today for copy, and names of users in your vicinity.

DETROIT HEATING & LIGHTING CO.  
454 Wight Street, Detroit, Mich.

Carburettor under ground  
Machine in basement



**Mayer's HONORBILT SHOES**

These shoes combine style, refinement, comfort, service and high quality.

Mayer Honorbilt Shoes are not only stylish looking, but dependable for wear. They are "built on honor."

The choicest leather is selected for the uppers, the soles are of special tannage, the materials and workmanship throughout high-grade. Cannot be equalled anywhere at the price. If you want the dressiest and best wearing shoes obtainable, demand Mayer Honorbilt Shoes.

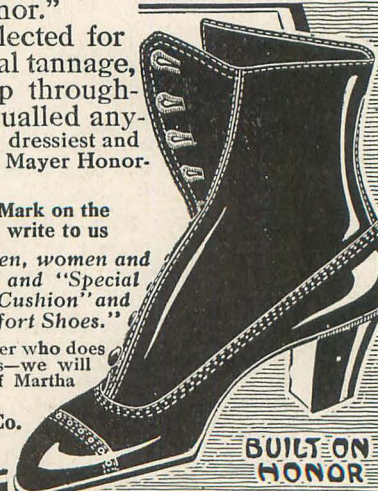
**WARNING**—Look for the Mayer Trade Mark on the sole—if your dealer cannot supply you write to us

We make Honorbilt Shoes for men, women and children, including "Leading Lady" and "Special Merit" brands—also Mayer "Yerma Cushion" and Mayer "Martha Washington Comfort Shoes."

**FREE OFFER**—Send the name of a dealer who does not handle Mayer Honorbilt Shoes—we will send free a handsome picture of Martha Washington—size 15x20.

**F. Mayer Boot & Shoe Co.**  
Milwaukee, Wis.

Look for Mayer Trade Mark on the sole.



**BUILT ON HONOR**



catch the winter's snow is one method of increasing the moisture of the soil. Water stored in the soil is the same as money in the bank as far as the dry-land farmer is concerned.

#### Kinds of Trees to Plant

It is not necessary when one wishes to plant a wind break, to experiment much regarding kinds of trees. One will not miss it much by planting a mixture of green ash and cottonwoods. The term cottonwood may be used to include the Norway poplar, Carolina poplar and the Northwestern poplar. The idea is to mix the ash and cottonwoods. The cottonwoods will develop more rapidly and will act as nurse trees for the green ash. By the time the cottonwoods or the poplars begin to go back, or by the time they are needed for fuel, the green ash will be promising trees. If the cottonwoods or poplars are planted alone the grove or windbreak does not have the permanency that it should. If the green ash are planted alone one does not obtain the rapid growth that is so much to be desired.

#### Thickness of Planting

We recommend that the trees be planted in rows, the rows to be about 8 feet apart.

be planted and ash trees from 12 to 24 inches tall. The cost of such trees is not great. One nursery in North Dakota this year lists ash seedlings 12-24 inches tall at \$4.00 a thousand, and cottonwoods from 20 to 30 inches tall at \$5.00 per thousand.

One will have very good success generally by starting cottonwoods or poplars by means of cuttings. The cuttings may be made in the spring before the buds scarcely begin to develop. Cuttings should be made of vigorous wood of the previous year's growth, and they should have a length of about 8 inches. They may be soaked for 24 hours after cutting before they are planted. They should be planted nearly their entire length, leaving but one or two buds above the surface.

#### Planting the Trees

In planting the trees, furrows are plowed eight feet apart wherever the rows are to be. A pail of thin mud is prepared and into this a bunch of the seedling cottonwoods and seedling ash are placed. The pail of trees, a spade and a man forms the planting crew. The spade is inserted into ground and worked back and forth and as it is removed with the left hand and seedling tree is shoved into the hole with the

the leaves have fallen. Pruning these trees while the leaves are on has a weakening effect. The food that is in the leaf generally goes back into the tree before falling in the autumn. It should be remembered that after receiving trees from the nursery the roots should be well protected.

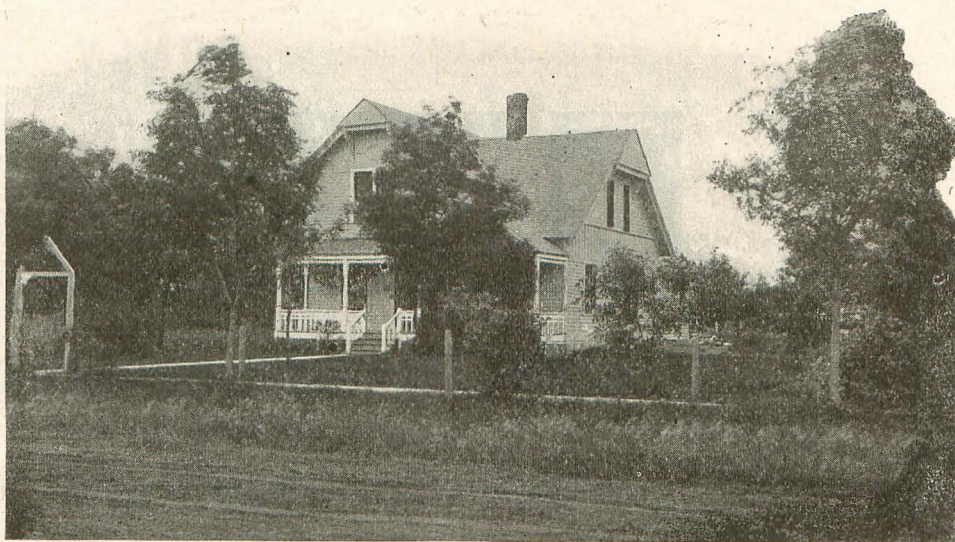
#### Evergreens

If one desires to start in with evergreens, Probably the bull pine will prove most satisfactory in the long run.

The evergreens start slowly, but after once becoming established the bull pine will make reasonably rapid growth. Seedlings are not very expensive, but it will be several years before seedling evergreens attain a height of one or two feet. In handling evergreens great care should be taken in keeping the roots away from the air. If the resinous sap of the evergreen roots once becomes dry the tree is dead. When exposed to the air such drying will often take place in a few minutes.

#### THE USE OF PAINT ON THE FARM (Concluded)

For dark shades of brown or red there is probably nothing which is as cheap as the



Results Which May be Obtained from the Judicious Planting of Trees

Such a width makes it easy to enter between the rows with a two-horse corn cultivator, thus they are easily kept clean. Within the rows they may be planted two or 3 feet apart. If later, one finds that the planting is too thick some of them can easily be removed.

#### Size of Trees

When one is planting a considerable number of trees to form a windbreak or plantation, then it is almost necessary to start in with small trees. They develop better root systems when they are transplanted young and consequently they grow more rapidly. The cost of young trees is very much less than the cost of older trees. Cottonwoods from 24 to 30 inches tall may

right. A person generally works backward, thus saving injury to the trees already planted. After the tree is planted, the dirt must be packed firmly with the foot around the roots. If desired the furrow may be partially filled with a corn cultivator. It is well to leave something of a furrow along the row as water from rains will tend to run in and irrigate the trees. At the end of the first season it is well to prune the young trees up to a single whip. If this is not done they tend to acquire bushy form. This method of pruning should be repeated for 2 or 3 years. The trees should finally be made to head at a height of 5 or 6 feet or perhaps more. It is best to prune ash and cottonwoods when

oxid of iron pigments. These vary very much in shade, giving both browns and dull reds. A pigment that gives a very satisfactory reddish brown and contains about 40 per cent of iron oxid makes a satisfactory paint containing approximately 56 per cent pigment and 44 per cent vehicle, the vehicle being very much the same as that used in a first-class white paint. Such a paint will weigh about 13.5 pounds to the gallon, which, therefore, will contain 7.55 pounds of pigment

North Dakota Farmer: Fifty Cents a year; 3 yrs., \$1.00. Agents wanted.



and 5.94 pounds of vehicle. This pigment is cheap, generally costing not more than one or one and one-half cents per pound. The pigment in a gallon of this paint, therefore, would cost approximately 10 cents, and the 5.94 pounds of vehicle about 73 cents, giving a cost of 83 cents for the gallon of paint.

An inspection of these figures shows that the expensive part of this paint is the vehicle and not the pigment. A paint of this character is a very good material to apply either to wood or iron. There are more expensive paints, however, frequently used on iron to protect it from rusting, the most popular being red lead and linseed oil. This material undoubtedly affords very good protection, but it is also expensive. A red-lead paint can not be made and kept as most other paints can. The red lead itself causes the oil to dry, and no additional drier is necessary. In fact, red lead should not be mixed until just before it is used. A paint made 70 per cent of red lead and 30 per cent of linseed oil will weigh about 19.8 pounds to the gallon. A gallon of paint, therefore, will contain 13.86 pounds of red lead, which costs about 8 cents a pound, making the cost of the pigment in a gallon of this paint approximately \$1.11. The 30 per cent of linseed oil will weigh 5.94 pounds, and a gallon of linseed oil 7.75 pounds, costing about 90 cents at the present time, or 11.5 cents a pound. The oil in the paint will cost then about 68 cents, and a gallon of red-lead paint would cost \$1.79, as compared with 83 cents for a gallon of oxid of iron paint. These two paints will cover about the same area of clean iron, and while somewhat better service might be expected from the red-lead paint, it is more than twice as expensive as the iron-oxid products.

#### Whitewash

Whitewash is the cheapest of all paints, and for certain purposes it is the best. Lime, which is the basis of whitewash, makes a very sanitary coating, and is probably to be preferred for cellars and the interior of stables and other outbuildings. The following directions for making whitewash are taken from "White Paints and Painting Materials," by W. G. Scott:

Ordinary whitewash: This is made by slaking about 10 pounds of quicklime with 2 gallons of water.

The lime is placed in a pail and the water poured over it, after which the pail is covered with an old piece of carpet or cloth and allowed to stand for about an hour. With an insufficient amount of water, the lime is "scorched" and not all converted into hydrate; on the other hand, too much water retards the slaking by lowering the heat.

"Scorched" lime is generally lumpy and transparent, hence the use of the proper amount of water for slaking and an after addition of water to bring it to a brush consistency.

An old receipt for whitewash, issued by the Lighthouse Board of the Treasury Department, said to be very good for outdoor exposure, is as follows:

"Slake half a bushel of unslaked lime with boiling water, keeping it covered during the process. Strain it and add a peck of salt, dissolved in warm water; three pounds of ground rice put in boiling water and boiled to a thin paste; half a pound of powdered Spanish whiting and a pound of clear glue, dissolved in warm water; mix these well together and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace; and when used, put it on as hot as possible, with painters' or whitewash brushes."

The washes which contain milk, flour, or glue are not to be advised for use in damp, interior places owing to danger of decomposition of the organic matter. For such locations it is better to use one of the formulae containing none of these ingredients. Whitewash is applied with a broad whitewash brush and is spread lightly over the surface, no attempt being made to brush it in as is the case with an oil paint.

#### Calcimine

Cold water paints or calcimine have as their basis whiting or carbonate of lime instead of caustic lime, as in whitewash. This material itself does not adhere, and



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North Dakota Farmer: Fifty Cents a year; 3 years, \$1.00. Agents wanted.

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One Hundred North Dakota Housewives

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**NORTH DAKOTA FARMER, Lisbon**



it is necessary to use a binder of some kind, generally glue or casein. Scott also gives the following directions for making calcimine:

Ordinary white stock. (Calcimine):  
(1) Sixteen pounds dry Paris white (whiting) mixed until free of lumps, with 1 gallon boiling water.

(2) One-half pound white sizing glue; soak 4 hours in one-eighth gallon cold water. Dissolve on a water-bath (glue-pot) and pour into (1).

The above recipe makes about 2 gallons of stock, weighing twelve and three quarters pounds per gallon. It is of proper brush consistency and may be used at once, but is better after standing half an hour. Any tint may be given the white stock by stirring the desired dry color in a little water and adding sufficient liquid color to the base.

#### Precautions to be Observed in Painting

Do not use any paints containing compounds of lead about stables or out-buildings where the fumes from decaying organic matter occur, since these gases are likely to darken the lead paints. Do not use with lead compounds any pigments which may liberate compounds of sulphur. For example, ultramarine blue which contains sulphur in a form in which it may be set free is a beautiful and very permanent blue and many be used with zinc white, but should not be used with white lead or any other lead pigments. Prussian blue, on the contrary, does not contain sulphur and may be used with lead pigments.

Remember that turpentine and benzin are very inflammable, and especial precautions should be taken not to bring paint containing these substances near any light or open fire.

Many pigments are poisonous, and the workman should be particularly careful to remove all paint stains from the skin, and not under any circumstances allow any of it to get into his mouth. A man should not eat in the same clothes in which he has been painting, and before eating should not only change his clothes but wash all paint stains from his skin. It is not advisable to use turpentine or benzin in removing paint stains from the hands, but by oiling thoroly with linseed oil, or, in fact, with any fatty oil, and then thoroly washing with soap, the paint may be removed, provided it has not been allowed to dry too thoroly on the hands.

#### THE FARMERS' GENERAL SERVICE COMPANY

There has been considerable said during the past fall and early winter with regard to the methods of business pursued by The Farmers' General Service Company of Minneapolis doing business in North Dakota.

A recent bulletin from the Food Department in this state points out something of the methods practiced by the Farmers' General Service Company, and clearly indicates that, to say the least, their methods are very questionable; that the farmer is not likely to be materially benefited; that the goods which they sell are in many cases in violation of the Food Law of this State. Take for example Ceylon Tea, which proves to be only tea stems, to which has been added extract of catechu, a foreign ingredient, to give the flavor and appearance of tea; a nearly worthless article; and so with many of the other products.

The bulletin giving the information mentioned can be had by addressing the Experiment Station, and the concluding paragraph is as follows:

"The fact that their business is mostly with foreigners who are not acquainted with our language and who probably might be more easily induced to sign a negotiable paper than would our citizens who are more familiar with the language, all leads the writer to believe that the Company referred to is not one to be commended for the good work it is doing or has done for the people of North Dakota. I feel called upon to warn the public against purchasing goods of the character sold by this Company, which products are in violation of the provisions of the North Dakota Food Laws."

The slight burns which the housewife so often receives in her work may be relieved by wetting the burn quickly with vinegar and then dusting over thickly with baking powder or flour.

Take your worn-out blankets this spring and make them into pretty, serviceable comforts by basting them together to re-enforce the thinnest places and covering them with silkoline, cretonne or calico and tying them like any other comfort. They are soft and easily washed as there is no batting to mat up.

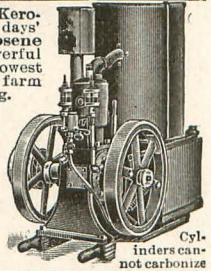
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The "DETROIT" is the only engine that handles coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Basic patent—only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h. p., in stock ready to ship. Complete engine tested just before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric-lighting plant. **Prices (stripped), \$29.50 up.** Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate amazing, money-saving, power-saving "DETROIT." Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, we will allow you Special Extra-Low Introductory price. Write! **Detroit Engine Works, 385 Bellevue Ave., Detroit, Mich.**



**THE farmer who knows the plain truth about paint is not at the mercy of either paint fakirs nor fake painters. He knows what to ask for in his specifications and how to get what he specifies.**

The "Handy Book on Painting" gives in concise and practical form the plain facts about the most durable of all paint, made from

## Dutch Boy Painter

### Pure White Lead

When competent help isn't handy, the farmer who understands paint can do a pretty good job himself, especially on the small painting, such as fences, sheds and tools.

Ask for Farm Helps No. 342 and if there are children in your family or your neighbor's family, ask for the Dutch Boy Painter's Book for the Children.

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(Pittsburgh, National Lead & Oil Co.)





## Seasonable Receipts

### Boiled Parsnips

With Cream Sauce. Scrape and throw into cold water. Put in a spider of boiling salted water and boil until tender (if young three quarters of an hour, if old one and one-quarter hours). When done lay them on heated dish; cover with cream sauce or drawn butter. Pepper, and serve hot.

### Some Uses for Vinegar

If lamp wicks are soaked thoroly in vinegar and allowed to become perfectly dry before using, they will never give out a bad odor when the lamp is turned low or blown out.

A small amount of vinegar in the boiling water will help to make tough meat more tender.

A teaspoon of vinegar will help to keep poached eggs more shapely, especially if they are not perfectly fresh.

Potatoes will bake much more quickly if allowed to stand in boiling water for 10 or 12 minutes before putting in the oven.

### Meat Omelets

One teacup cold beef, ham or veal chopped fine; one teacup bread crumbs, soaked in one teacup milk; two eggs; salt and pepper. Stir thoroly, adding beaten eggs last. Drop by spoonfuls into hot drippings and fry a light brown.

### Veal Loaf

Three eggs, butter size of an egg, one tablespoon salt, three pounds raw veal chopped fine, one teaspoon black pepper, one large tablespoon sage, three tablespoons cream or milk, if milk is used add a little more butter. Mix the eggs and cream. Mix the veal and four crackers pounded fine, then add seasoning. Mix all well together and make into loaf. Bake two and one-half hours, basting with water and butter.

### Coffee Cake

One heaping cup sugar, one-half cup butter, one-half cup lard and a little salt, creamed. Three eggs, one cup cold strong coffee, one teaspoon soda, one cup table syrup, one-half package seeded raisins, nutmeg, cloves and cinnamon. Mix quite stiff with flour. Bake two hours.

### Maple Sugar Biscuit

One quart flour, two teaspoons baking powder, one-half teaspoon salt, one tablespoon butter and enough milk to make a soft dough. Roll out and cover with one cup of maple sugar. Fold over and roll again. Cut with small biscuit cutter and bake quickly.

### Cheese Croquettes

Make a sauce of three level tablespoons of butter, one-third cup of flour and two-thirds cup of milk, add two egg yolks, one and one-half cups of grated cheese broken into bits; season with salt and cayenne. When cold shape, and dip in egg and bread crumbs, and fry in deep fat. Serve with simple vegetable salad or with crackers alone.

### Egg Omelet

Allow one egg for each person. Beat yolks and whites separately. Stir lightly together. Add one tablespoon water or milk for each egg and season to taste. Pour into well-buttered hot spider, cover and cook slowly. Fold over on a hot platter and serve as soon as cooked. This is nice with a generous seasoning of grated cheese mixed in before frying. Omelets may be baked instead of fried if preferred.

### Sour Cream Pancakes

One cup sour milk, one-half cup sour cream, a generous pinch of salt, desert-spoon of sugar, one level teaspoon soda dissolved in a little sweet milk. Add flour to thicken like pancake batter, then add one egg beaten and beat well. Fry on hot griddle greased with butter.

### Breaded Meat

Remove skin and bone from round steak. Cut in small pieces and dip in egg and fine cracker crumbs. Fry in pan with lots of butter just long enough to sear over,

not to brown. Make a gravy with tablespoon butter, two tablespoons flour, pour on boiling water and then pour over meat which has been placed in suitable dish for baking about two hours. Cover tightly the first hour so that it will steam and be tender.

### Goldenrod Toast

Cut up the whites of hard boiled eggs in small cubes, warm up in a cupful of well seasoned cream-gravy. Serve on slices of toast with the yolks grated over the top.

### Isabel's Cream Pie

(two pies)

One quart of milk; one scant cup sugar; one teacup flour; 5 yolks of eggs; butter, the size of walnuts. Boil milk in double-boiler. Add yolks, sugar and flour, previously well beaten with a little of the milk. Add butter. Pour into previously baked crusts and cover with meringue of whites. Sprinkle with cocoanut, if desired.

### Pie Plant Pie

Mix together one cup chopped pie-plant, one generous cup sugar, one tablespoon flour, one egg and bake with two crusts.

### Dried Raspberry Pie

Sprinkle bottom of pie crust with dried black raspberries. Over these put three-fourths cup sugar mixed with one heaping tablespoon flour. Pour in one cup cold water. Put on top crust and bake slowly. (Very nice).

### Good Furniture Polish

Equal parts of boiled linseed oil, turpentine and vinegar. Mix thoroly and apply with soft woolen cloth.

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Real household economy is possible only when you have in the kitchen an

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**W**HY do you see so many dull,  
faded-looking houses?

The trouble with such houses is that they are Oil-hungry. They are painted with a paint that has not enough Linseed Oil in it—a paint that never *could* have enough Oil in it on account of the character of the pigments used.

The best Paint *must* do two things. It must preserve and beautify. Do you know that Linseed Oil is *the* great preservative in Paint and that if it were not for the sake of appearance, you could give your house a coat of pure Linseed Oil, and it would be protected?

The solid part of Paint (Strictly Pure White Lead, Strictly Pure Zinc, and, in some Paints, baser metals) acts as beautifier only.

Strictly Pure Zinc absorbs more Oil than any other pigment and that is the reason for its use in Horse Shoe Paint. WHITE LEAD is used for its covering qualities, and ZINC for its *Oil-carrying* capacity.

And Oil-carrying capacity is what your Paint *must have* if your property is to be protected.

Horse Shoe Paint, while it covers and beautifies the surface thoroughly, is made of pigments that carry so much oil, that the *first* coat satisfies the oil-hunger of the wood leaving the second coat to gloss, harden, protect, and beautify.

That's why Mound City Horse Shoe Brand House Paint HOLDS its gloss.

## Mound City Paint & Color Co.

GOOD MAKERS OF GOOD PAINTS

St. Louis, U. S. A.



# My Ideal of a Car

*By R. E. Olds, Designer*

**Reo the Fifth—My Farewell Car—in every detail marks the best I know. And I've built cars for 25 years. If any man can build a car better he's a better man than I.**

## **To the Men Who Have Faith in Me**

Automobile makers say it is simply impossible to give the best in a car for \$1,055.

I agree with them.

This price, I believe, can not be continued. Our contracts with dealers provide for advance.

But I promise you this:

Reo the Fifth, while I direct the making, will embody the best of which I am capable, regardless of price or profit.

## **Men Look to Me**

Tens of thousands of men, in the past quarter century, have used cars of my designing.

They have come to have faith in me. They believe that I know.

Reo the Fifth is my finest car, the cap-sheaf of my career. And myriads of men will remember me by it, whatever new cars the Reo plant may bring out.

You who look to me can rest assured that this car marks my limit.

## **The Final Touch**

I have spent 18 months in designing this Farewell Car.

I searched the whole motor car world for ideas for it. In it I embodied the best I had learned from the 23 models which I built before it.

I never before gave such care to a car. Nor has any other man, I think.

Never have I stood for such big margins of safety—never insisted on such careful inspection.

Never before have I gone so far to get the final touch.

## **Look for Yourself**

The lines of the car show its up-to-dateness.

The body is finished with 17 coats. The lamps are enameled. Even under the hood you'll find the engine nickel trimmed.

Note the deep upholstering, made of genuine leather, filled with genuine hair.

Note the car's roominess. Note the big wheels. The car is overtired.

Note the absence of petty economies.

## **The Parts Which Tell**

But the parts which tell in the long run are the hidden parts of a car. Men's final judgment will depend on them.

I use Nickel Steel in the axles and driving shaft, and I make them much larger than necessary. I use Vanadium steel for connections.

Each lot of steel, to make sure of it, is analyzed before I use it.

The gears are tested in a crushing machine of 50 tons' capacity.

The magneto is tested under conditions which very few can stand.

The carburetor is doubly heated, to avoid the troubles due to low-grade gasoline.

Roller bearings are used—Timken and Hyatt—where ball bearings once sufficed. There are only three ball bearings in this whole car, and two are in the fan.

So in every part. All the precautions taught me by experience are employed in this Reo the Fifth.

## **New Center Control No Side Levers**

Then here, for the first time, is a cane-handle control. All the gear shifting is done by slightly moving this lever in each of four directions.

Both brakes are operated by foot pedals, and one pedal also operates the clutch.

So there are no side levers—there is nothing in the way of the front doors.

This arrangement permits the left side drive, heretofore possible in electric cars only. The driver sits as he should sit, close to the cars he passes and on the up side of the road.

These are conveniences found today in Reo the Fifth alone.

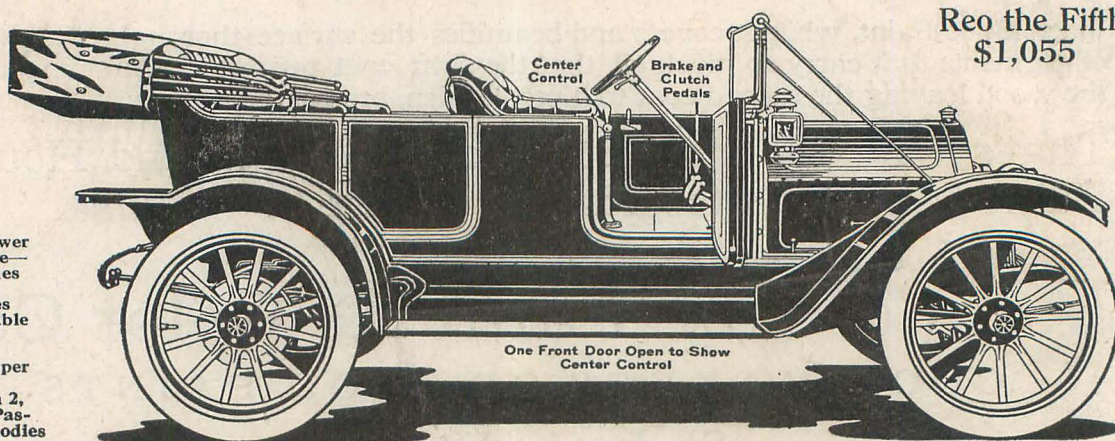
## **Ask for the Book**

Our Book points out all the perfections, and pictures the various bodies. Every motor car lover should have it, for this is one of the interesting cars.

Write us to mail it—write us now—and we will also tell you where the car can be seen. Address

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